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THE GOLDEN-HEADED VULTURE, HIEROGLYPHIC A.


ANCIENT EGYPT.

BIRDS IN ANCIENT EGYPTIAN ART.

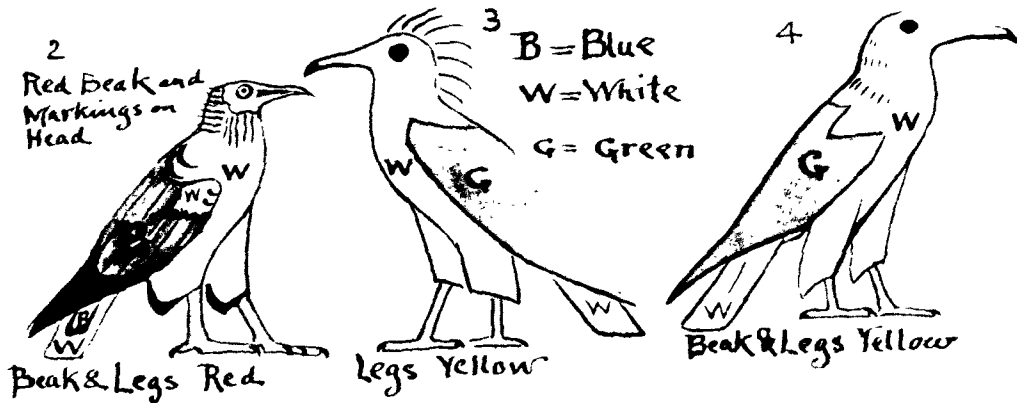
(*Frontispiece.*)

SOME years ago, I wrote on the subject of colour as used by the ancient Egyptians in the representation of living objects; and though now one has seen so many hundred more different examples than then had been available, I have still, with some regret, to restate my original view, that we know little as to the rule that dictated to the old artists what colour they should use.

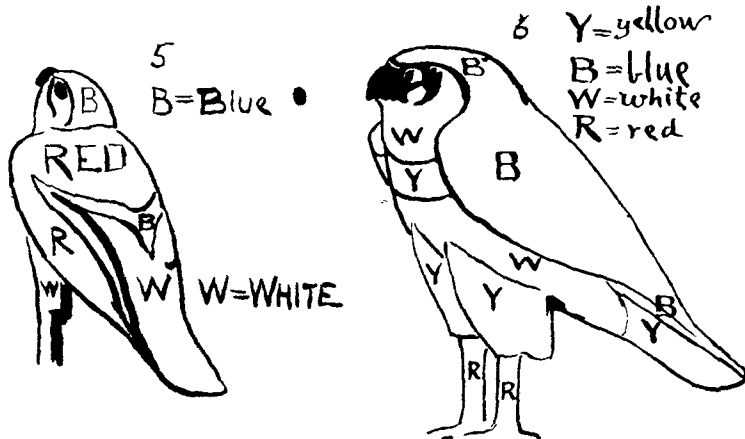
Light will doubtless be thrown on this by Mr. Howard Carter's book when it is published. Those who have been privileged to see parts of it know his extraordinary powers of observation, exact illustration, and artistic handling, which make them await the work with the utmost interest. What one, however, almost fears must necessarily be impossible to elucidate is, why the same bird—or what on every method of judgment one would say is the same bird—should be in one case coloured red, and in another blue, while the real colour in nature is neither red nor blue. We know, or seem to know, that certain classes of objects were always by some convention to be coloured one regulation colour, for instance, wood (or wooden objects) are nearly always red, whilst water is blue; but in the matter of birds there seems no fixed rule of this sort. All are aware that, over the vast period of time which one is considering, artists and schools were succeeding one another constantly, and that certain periods were artistically infinitely preferable to others. That, however, will not help us over this particular difficulty, because on the same wall, and of the same period, I have found such different renderings of the same bird that, judging by the colour, you would have to place them as scientifically different species. I still remain in this view, which was arrived at long before I had read the following:—"In studying Egyptian wall-painting the question immediately arises how far the faithfulness and realism of the artists is to be depended upon. Their bad work was often very bad; but their best work also was done principally with a view to decorative effect, and thus we see, for example, that the fins of the fishes are often misplaced, the colours of a bird may be taken from one species, and the form from another, while everything is considerably conventionalised" (*Beni Hasan*, Part III).

From my own notes I have selected some cases to make this clear. The first is this figure of  the Egyptian vulture used alphabetically as A. In the frontispiece, Fig. 1, you have for comparison a sketch of the actual bird, as rendered by a modern draughtsman from the living example. In Figs. 2, 3, 4, are shewn three copies of this same sign which were painted in colour, each differing considerably the one from the other, but all three being

selected because of the careful work shewn in them. No. 2, from the tomb of Ameny, Beni Hasan, is coloured blue, red, and white, as indicated by lettering. The markings on head and neck, which presumably represent the ruff of long thin feathers which adorn the neck, are painted in reddish colour, as are the beak and the face, which is bare skin. In nature, the ruff of feathers is pure white with no suggestion of red, and the bare skin of face, with the base of the beak, is bright yellow. The white parts in all three figures are correct as in nature—but the



wings in this Fig. 2 are blue—with black primaries, and there is a curious white square on the point of the wing, which one is most uncertain about. In nature the wing is, as you see by Fig. 1, white, with dark grey secondaries, which at a distance look absolutely black, and with black primaries. In No. 3, which is from the inside of a painted wood coffin of the IIIrd to IVth dynasties, the bird has what looks like a crest of feathers on top and back of head and is shewn with quite bright green wings, and its legs are yellow, as they are in Fig. 4, from a XIIth



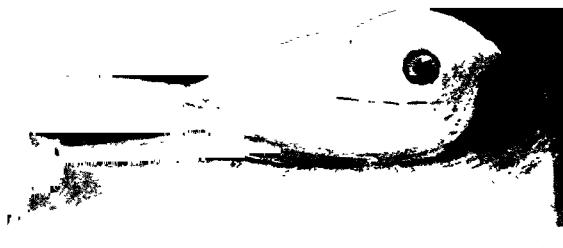
dynasty tomb. In nature the legs are a sort of chalky pink-red. In Figs. 5, 6, are shewn two wooden hawks; Fig. 5 is in the Petrie Collection, Fig. 6 is my own; both are practically as far as shape and size go identical; but the colouring, as I have shewn by my lettered diagrammatic drawing, is about as markedly different as well could be imagined.

Incidentally most will agree that the lot of the poor bird expert, who is called in to name certain birds, is not quite a happy one, and the writer has had more than one experience, where the questioner has looked upon our cautious answer as a mere subterfuge of ignorance, and seemed doubtful if one were not posing as having knowledge while being really a regular fraud. Still one goes on, and does not regret the long hours given to this side of Egypt's story; every season something new crops up, and only this year Prof. Petrie asked me to look at a very perfect little work of art.



7

7. NIGHT-JAR. FROM NATURE.



8

8. IVORY CARVING OF NIGHT-JAR. GARNET EYE.
PREHISTORIC.

This little ivory is just about 2 inches long, and is in no way remarkable for any detail of markings of wings or feathers. The first point seen is that the eyes are of a different colour and substance to the rest. They are small beads of garnet, with the darker iris plainly shewn, and the same dark colour surrounding the eye gives the appearance of the heavy eyelids peculiar to the bird.

Now it may be asked, after looking at our two illustrations, Fig. 8 being of the little ivory itself, and Fig. 7 a sketch of my own of the bird from nature,—whatever is it you see in this ivory to so admire? My answer is, first, that of all birds I know the nightjar is peculiar in this identical squatting position; and that, when seen, the eye is the most marked thing visible. Indeed, it is a commonplace amongst field naturalists that it is extraordinarily difficult to discern this bird at all, as it lies or squats on the ground, possibly not a yard away from you, until you catch sight of the great luminous eye. This is because it crouches rigidly motionless, and because of the delicate markings—blotches and pencillings of brown and grey and buff, which harmonize and blend with the surrounding soil and stones, so that it

looks merely like a rounded bit of the adjoining earth. The old time artist knew this very certainly, and made a point of it. Then the next peculiarity is that the broad head ever lies close in on the shoulders, and the body and tail make one continuous line, with the feet hidden underneath, and in broad simple fashion all these characteristics are given, so that though in white ivory which cannot shew the delicacy of pattern of its brown and buff plumage, it is possible to at once identify it as being meant for the Egyptian nightjar (*Caprimulgus aegyptius*). This form is an inch smaller than the European species, which is a comparatively rare visitor to Egypt. And the Egyptian bird is again a rarer visitor still to our own country; only one case is known authentically, and that was in 1883, when, with regret it has to be stated, it was promptly shot; this was in the heart of England, Nottinghamshire.

Both species are marked with very similar delicate grey buff and brown blotches and pencillings,—but our English one has the markings rather more positively, and distinctly darker blotches. Its curious note, which is perhaps the most singular of all our native birds, once heard is never forgotten. It harmonizes completely with the wild moorlands and waste places that it loves—and loves so consistently that it returns annually, as a summer visitor, to the exact spot where it nested the previous year, and where probably itself was born from the eggs laid on the bare ground under some mass of bracken.

Two outstanding points, which are to the artist points of great merit, are, first, the extraordinary individuality of all Egyptian art from any other art; and, second, that quite apart from the actual scale of the work of art (as in this little gem of a sculptured nightjar), it is ever—in studio parlance—“big.” If you have any doubt about the first, try and paint or sculpture any bird or inanimate object to make it look like the work of some good Egyptian period. Your first essay will at once reveal to an expert that it is done by Western hands; there will be some tell-tale peculiarities, of which you yourself are quite unconscious, that will certainly, as we say, “give the show away.” Even if you simply attempt to copy direct from some Egyptian work, you will be astounded at the difficulty of getting just the identical type of line and contour that is everlastingly to be found in everything they did. Then the other point is equally certain, that theirs was the godlike gift of making everything big. Take those little wee statuette figures, only an inch or inch and half high, they are still great,—big with the same dignity, reserve, and masterly seizing in their own way the simple necessary contours and broad forms and masses. Needless to add, here reference is only being made to the great and good periods. Their bad work, as already has been pointed out, is very bad; and it is curious that bad work is points easier to copy than good. Some of the work of the worst periods might really just be the work of a badly-taught board school child of to-day, the resemblance, indeed, often is really striking. But for the rest—and it is a very big remainder—all their work ever has this individuality and this bigness, just as this little bit of ivory is a complete work of art, and the cleverest representation of a nightjar that I have ever seen.

To go back to our frontispiece, in old books of travel this bird is often referred to as Pharaoh's Chicken; travellers tell how it was to be seen in every village walking about amongst the domestic poultry, and describe how it would eat and clean up the most unsavoury filth and nastiness, that even a poor skinny Egyptian fowl would scorn. The name has some interest, because nowadays all that has changed, and in all the years I can remember Egypt I have only once seen it. This was at some small settlement of huts—not worthy even of the name of a

village—midway on the old road between Keneh and Koseir. From a group of what at a distance looked like all geese, two birds flew up and circled lazily round, and I saw they were Egyptian vultures. The geese did not seem disturbed or notice them, and I remember the whole incident because of the unsuitability of the place, a desert, for a water-loving bird like the goose. Still Egypt is full of these surprises, as all travellers must have been startled to hear for the first time the “goble, goble, goble,” of the ubiquitous turkey-cock from the roof of some high building in town or city.

It would be most interesting to bird lovers if we could reach some smallest direct knowledge of what reason dictated their choice of birds as hieroglyphs, which seem to us to have no possible connection with the ideas they are supposed to embody. Why should a vulture, which is the most repulsive looking and most foul feeding bird, and far from the best and highest type of good parent, be used as a symbol of motherhood, with all its delicate and sacred associations? Again, why should an ibis be chosen to head the embodiment of the great master mind and deity that presided over the arts, letters and literature? Above all why a duck or a goose should be chosen as the sacred and royal symbol of an earthly monarch's sonship with the greatest of their gods? In not one of these three leading cases can an ornithologist see the slightest suitability or propriety whatever. Although one has to record that, it may well be that nevertheless there may be some sound reason, which in due course will be gradually discovered, and that is the hope and inspiration of every scientific worker in this particular furrow of the great fascinating field of Egyptology.

CHARLES WHYMPER.

[Unusual as the golden-headed vulture may be in most places, it is still frequent in others, as at Denderah, where I have counted thirteen all within a stone's throw of our courtyard; they frequented that as they always found there a peaceful supply of scraps.—W. M. F. P.]

EXCAVATIONS AT SAQQARA.

THE excavations of the past season at Saqqara were conducted in a quarter of the necropolis well known to every visitor, close to the tombs of Mereruka and Kaqemni and to the pyramid of Teta. When these tombs were formerly cleared the use of light railways had not begun, and all the sand and stone, carried in baskets on boys' heads, had been banked up in close proximity to the mastabas. Underneath this equally good inscribed tombs might possibly lie concealed. Accordingly, in the last two seasons, in accordance with the wish of Sir Gaston Maspero, a beginning has been made with the task of clearing a considerable space, including the area between and surrounding the accessible tombs. No great mastaba has yet been found; a large bulk of top stuff had first to be moved, then three well defined layers of interments had to be worked through before the Old Kingdom tombs were reached, and in the limited area as yet cleared to ground level only one tomb of the earliest period has been found in good condition.

The uppermost layer was of Roman date, of the 3rd century. The superstructures were oblong benches of brick, lying north and south, higher at one end than the other, covered with plaster, and sometimes decorated with simple patterns in red and black paint. In the raised end was a niche, in the back of which there remained, in one case, a human head roughly painted in red. The graves were shallow, about 30 inches deep; in them lay bodies fully extended, loosely wrapped and bandaged. There were hardly any small objects. A coin of Marcus Aurelius had been placed in one child's mouth; this was found in the previous year (1912-13). Two interesting pieces of faience—a sphinx and a vase with decoration in relief—and a marble head of a boy, a good piece of portraiture, were the most important single objects.

In the bodies themselves the most obvious point of interest was the curiously bad condition of the teeth; not only were these generally worn down very flat, but decayed molars, and jaws almost devoid of teeth, were very common. The contrast between these people and the present population of the villages is, in this matter, most striking; but of course our interments may have been those of a poor class of townspeople from Memphis, and not countryfolk at all.

In the tombs, and still more between them, at this level, a considerable collection of pots was made, and these were carefully drawn and worked up by Mr. and Mrs. Hayter, who, this year as last rendered us most valuable volunteer assistance in every way.

The second layer of bodies was at about three feet depth below the Romans. They were oriented at right angles to those above them, the heads being to the west. Here again a poor class of the population was alone represented. Some hundreds had to be examined, so closely did they lie together, and dated objects were non-existent.

The coffins were of anthropoid form, but very roughly made of planks daubed over with mud: the faces were sometimes carved in wood and pegged on, but more often moulded in clay roughly painted. The class is but too well known to diggers, and is most difficult to date.

The third layer contained fewer bodies and was less uniform in type. Most were in oblong boxes, of greater height than width. One group with gable lids, and bands of red and yellow (a red central stripe with yellow edges), was well defined. All these were probably of the early New Empire.

One of the square-ended plain coffins contained an unexpected prize. There were two bodies in the coffin, both wrapped in plain cloth, and without so much as a bead or a pot to reward our search. The cloth was in fairly good condition, however, and as I threw one bundle of it aside it broke and disclosed, to my surprise, the head of a small wooden statuette. It is about 2½ inches high and represents a very young boy, hardly more than a baby. Two of the ordinary flower-shaped carnelian beads were suspended by gold wire to the ears: they are oddly out of scale, the child's earring being as long as his forearm; but the sculpture is very delicate and subtle, and such a charming study of a child is certainly of great rarity. Even in the Louvre the work would attract attention; in our scantier series at Cairo it is very valuable.

Another piece of fine sculpture was a wooden spoon, with an openwork handle representing a girl standing in a boat and gathering papyrus; this was only in fair condition. Wooden objects at Saqqara are rarely, if ever, in the perfect state so usual at Thebes.

At a still lower level was a set of boats from a Middle Kingdom tomb, and soon afterwards an untouched shaft of the same period was discovered. It had been sunk close by a large mastaba of the Old Kingdom, the masonry of which formed one of its sides. The massive wooden sarcophagi were in the shaft itself: the model boats, granaries and workshops in recesses at the base. There were no objects of intrinsic value, but the staffs and bows, the cartonnage masks and the sandals inside the coffins, and the models and statuettes outside, formed a rich group, and were in good condition. The types are well enough known, wooden boats propelled by oars, papyrus boats which were paddled, groups of brewers, and granaries. Less common is the carpenter's shop with a large set of model tools, and the model loom is perhaps unique. The canopic vases had wooden heads, all human, three representing men, one a woman.

The names on the two coffins were Anpu-emhat and Nekh-hetuser. Each of the groups when exposed in a museum necessarily takes a great deal of space, and it is very possible that we shall not be able to keep both of them at Cairo permanently.

This completes the tale of the interments. Of important superstructures we discovered two. At the lowest level was the mastaba of yet another Ptahshepses: it lies close to Kaqemni, to the north. The stela is a fine block of stone, with a rather roughly incised inscription; perhaps it had been usurped. The chamber is of crude brick, covered with mud plaster and painted. The scenes are commonplace, only the slaughter of oxen, but the colours are rather well preserved, and the dark slaty background is striking. It is regrettable that the tomb cannot be left long open; but there is no doubt that the damp air in winter would soon disintegrate the plaster unless it were protected by sand.

The second tomb stood above this; it must have been an extensive structure of the late XVIIIth or XIXth dynasty, and commemorated a certain Aâpudu.

The walls were of brick, faced with stone, but stood only a yard high when we found them, and had been stripped of all but half a dozen blocks. These, however, were of merit. There is a stela with a long text, a hymn to Ra : and another stela, brightly coloured, with the figures of the whole family depicted on it. Two other blocks, which fit together, show a funerary scene—boats upon a lake, and shrines (?) around it. More interesting artistically is a scene of led horses, drawn with great vigour and spirit.

There must once have been a great deal of this fine New Kingdom work at Saqqara, but it lay too accessibly, and the Copts used it as a quarry, building the whole monastery of St. Jeremias from it.

J. E. QUIBLL.

PART OF COPTIC SERMON.

[I have asked Sir Herbert Thompson to allow the publication of this, in hope that the author of it may be identified.—W. M. F. P.]

THE following text is written on a strip of vellum $8\frac{1}{4}$ inches high by 4 inches at the widest point, in a single column on obverse and reverse. The fragment is complete at top and bottom, but has been torn away on the left-hand edge of the obverse from what was originally probably a page with two columns of writing. One or more letters have been lost from the beginning of each line of the obverse, and from the end of each line of the reverse. I have filled up most of the gaps, but some of the restorations are conjectural.

The text is apparently the close of a sermon, but I have not succeeded in tracing its origin:—

Obv. . . **ⲙⲓⲣ̅ⲣⲉ ⲛⲓⲥⲁⲛⲓⲥ ⲃⲟⲗ**
ⲉⲡⲁⲧ̅ⲛⲧⲟⲩⲙ̅ⲧ̅ ⲉⲡⲓⲙⲛⲛ
ⲉⲡⲟⲩⲧⲉⲛ ⲟⲩⲛ ⲡⲛⲛ
ⲙⲛ̅ⲧⲉⲣⲟⲩⲧ̅ ⲉⲑⲟⲟⲩⲧ̅
ⲉⲩ̅ⲧ̅ⲛ̅ⲧⲉⲣⲟⲩⲧ̅
ⲛⲁⲗⲁⲕⲟⲛ ⲉⲁⲛⲧⲟⲥ
ⲙⲡⲁⲗⲁⲃⲟⲗⲟⲥ ⲉⲥⲟⲃⲉ
ⲙⲙⲟⲩⲛ ⲁⲛⲟⲛ ⲁⲉ̅ ⲛⲣⲓⲙⲉ
ⲛⲧ̅ⲛⲉⲓⲛⲉ ⲉⲭⲟⲛ
ⲉⲧ̅ⲗⲁⲛ ⲛⲉⲛⲁⲛⲟⲣⲓⲁ
ⲙⲡ̅ⲟⲟⲩⲧ̅ ⲭⲉⲕⲁⲥ̅ ⲛ̅ⲛⲉⲡⲙ
ⲭⲟⲩⲛⲉ̅ ⲛ̅ⲙⲟⲛ ⲙⲁⲣⲉⲛⲟⲣ
ⲙⲁⲗ̅ ⲛⲉⲗⲁⲥ̅ ⲛⲛ̅ ⲁⲧ̅ⲟⲩ ⲟⲛ
ⲙⲁⲗ̅ⲣⲉⲛⲕⲟⲩ̅ ⲛ̅ⲥⲟⲛ ⲛⲛ̅
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Translation :—

" . . . [lest the ties?] of the planks [be ?] loosened [before?] we have reached the harbour, the hull ?¹ [being] laden with bad merchandise ?) . . . unjust merchandise, we having given occasion to the devil to mock us. But we weep² and we undertake to yield us up to punishments to-day (?), in order that this may not happen to us. Let us hasten (?)³ in every direction and also leave behind us all passions, and let us cast away from us desire of riches in this place,⁴ so that also we may obtain the good things that shall come to us through the grace and loving kindness of our Lord Jesus Christ our Saviour, through whom all honour is due to Him and . . . and worship and thanks, together with His Good Father and the Holy Spirit,⁵ the Trinity in a holiness of Unity⁶ which is [in ?] an unfailing and unchanging Trinity, which ruleth the universe of things in heaven and things on earth now and at all times for ever and ever. Amen."

¹ l. **ORENT** ?)

² Probably the scribe's error for **UAPENPUC**, "let us weep and let us undertake," etc.

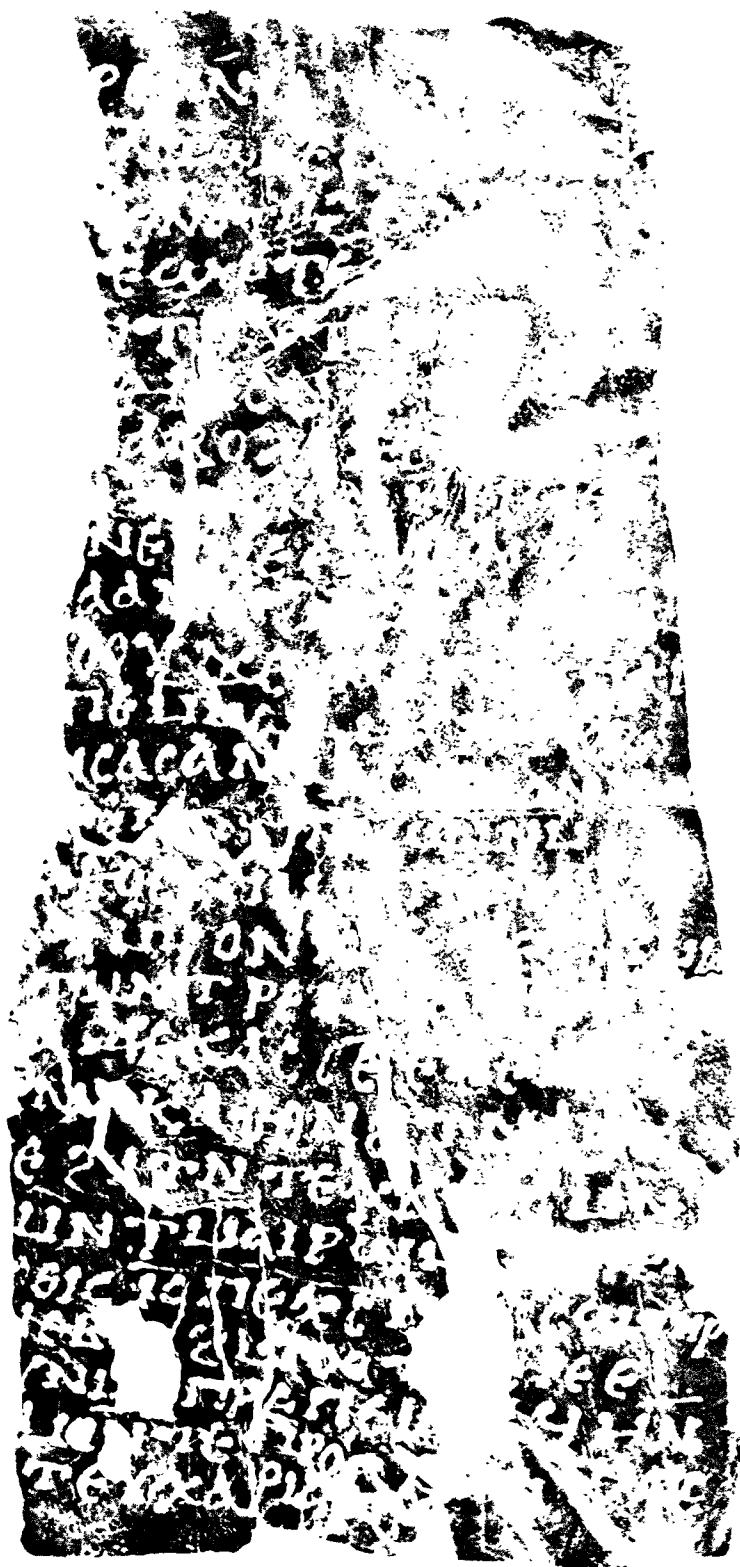
³ l. **OPUA** (?); one would rather expect **ZOPUA**.

⁴ *Or*, of this place, *i.e.*, this world.

⁵ l. **NEHNA**.

⁶ l. **UNTOTA**.

HERBERT THOMPSON.



THE METALS IN EGYPT.

It might be supposed that the introduction and use of the various metals in Egypt had been sufficiently dealt with in original works and compilations; but frequent mis-statements that are met with show that a summary of the matter is needed. Dating will be referred here entirely to Egyptian dynasties, to avoid the confusion that has arisen from arbitrary shortening of periods.

COPPER is the earliest metal of which we know anything in Egypt. It occurs in the oldest prehistoric burials of Sequence Date 30, while gold, silver, and lead have not been yet found before their appearance in the beginning of the second prehistoric age, s.d. 42. The nearest important source of copper was in Sinai, where 100,000 tons of copper slag, in the Wady Nasb alone, shows what a large industry was carried on there. Later, the more distant source of the North Syrian mines yielded a supply to Egypt, as seen in the tribute from Alashiya or Asi; probably still later in origin was the overseas supply from Cyprus, which Dussaud does not place till after the 1st dynasty. Unfortunately there are very few analyses of metal and of ores in different neighbouring countries for comparison with those in Egypt. At least we may note that a piece of prehistoric copper contained 1.55 per cent. zinc and only .38 of tin (Naqadeh), while no zinc occurs in Cypriote copper tools. Copper was certainly very scarce at first, as only small pins are found, with the top turned over in a roll, probably to secure it by a string (Fig. 1). Such a pin was found with a body buried in a goat skin, without any linen, of the earliest type of burial. The harpoon (Figs. 2, 3) and small chisel of copper both came into use in the first prehistoric age. The metal became commoner continuously during the second prehistoric age, as shown by the increasing size of the tools; the adzes and, lastly, axes came in, reaching the full weight of later times at the close of the prehistoric (Figs. 4, 5, 6).

In drawing conclusions we must not presume that we have all the means of judging; our material is extremely imperfect, as we repeatedly find that only a single example of some form is known to us. Only three Egyptian prehistoric copper daggers are known (Naqadeh and El Amrah); only one prehistoric copper spear-head has been found (Tarkhan). The copper helmets of early Babylonia (Enneatum) and of Crete (Haghia Triada) are only known from sculptures, and, without these, we should never have suspected that such forms were at all early. The archaeological record is as imperfect as the geological, and whole classes of products have dropped out of knowledge. Hence it is only when we have a large amount of remains in our hands of one age that we can suppose that we have any fair idea about it.

The first dynasty marks the greatest size of copper tools. The largest knife and largest adze (12½ inches) are of that age (Fig. 4, Tarkhan); even the great adze (12 inches), which a boat builder is shown using at Meydum (*Medum xi*), is scarcely as large. Exactly the same form has been found in Cyprus (MYRES, *Catalogue*, 501), but smaller (8 inches, see Richter-Cartailhac plate). As the form hardly comes in the Egyptian series of adzes, and is not likely to have been exported from Egypt to a copper region, it seems that Cypriote copper had reached Egypt by the 1st dynasty. In this age a large use was made of copper wire, which was produced by cutting strips of thin sheet copper and hammering them round.

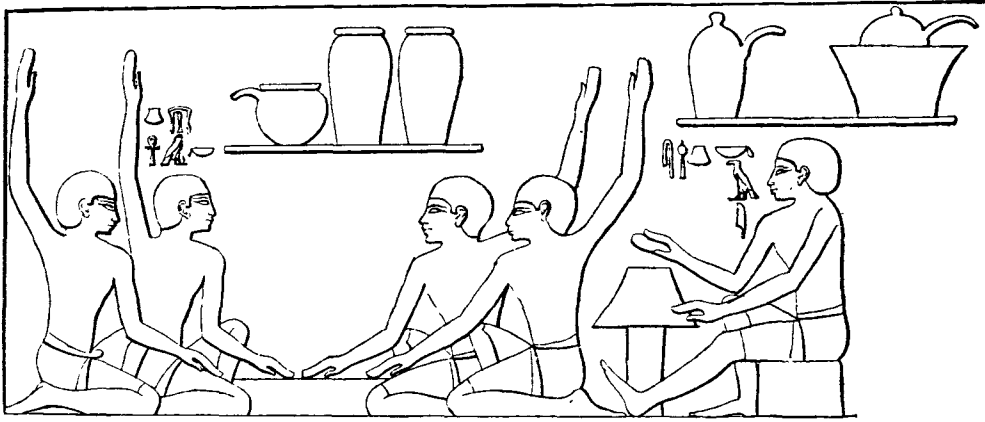


3:7

COPPER AND BRONZE WORK.

1. PIN, EARLY PREHISTORIC. 2, 3. HARPOONS, PREHISTORIC.
4. ADZE, CYPRIOTE, 1ST DYNASTY. 5. ADZE OF "SA NLI," 1ST DYNASTY.
6. AXE OF "DU-QA," 1ST DYNASTY (*Royal Tombs*, I, LXIII, W. 46).
7. ADZE OF "SNEFKU-MER-HEZT, SHEMSU," IVTH DYNASTY.
8. CHISEL OF "SENIOR MINER, AMBU," XIIITH DYNASTY?
9. CHISEL, XVIIIITH DYNASTY? ALL ABOVE COPPER.
10. HOLLOW CAST BRONZE RING, SIDE BROKEN AWAY.
11. THIN CAST FIGURE, BRONZE, $\frac{1}{16}$ -INCH THICK.

Such was applied to fasten together boxes, to unite horn bracelets, and even to secure large glazed tiles to a wall. Four samples of copper from the Royal Tombs each contained a little bismuth, about 1 per cent. in a chisel; a very small amount is enough to harden copper considerably (Dr. Gladstone). The adze, Fig. 6, is dated to the close of the IIIrd dynasty by the name Snefru-mer-hezt.



12. FOUR MEN BEATING COPPER. MAN FINISHING COPPER BOWL.
FINISHED COPPER VASES IN BACKGROUND.

In the Old Kingdom the casting and beating of copper was fully developed; scenes are shown of the beating out of bowls (Fig. 12), and the great statue of Pepy and his son (see portrait at end) is of beaten plates. For the analysis, showing it to be almost pure copper, see *Denderah*, 61.

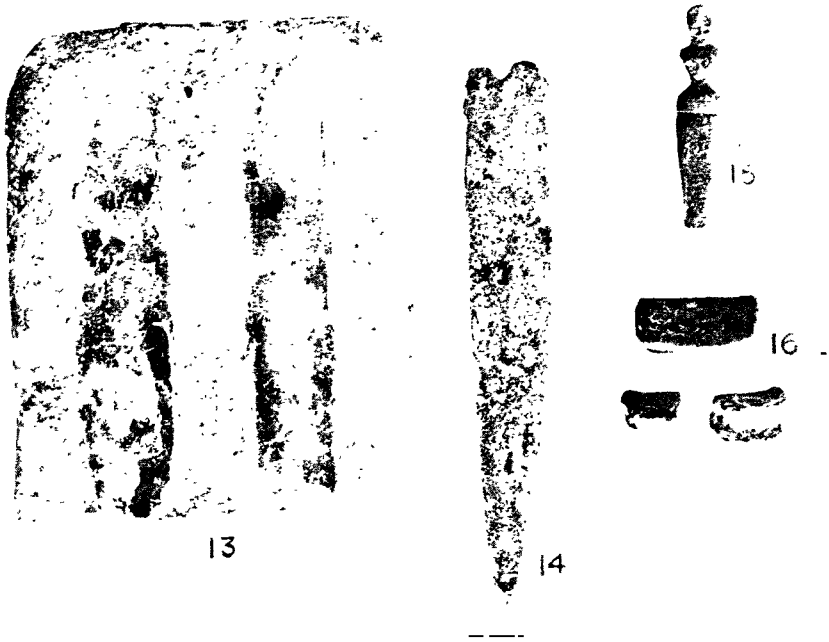
Of the Middle Kingdom are many fine tools; four analyses of these from Kahun show them to be nearly pure copper. Tin is only $\frac{1}{2}$ per cent., excepting 2 per cent. in a chisel; arsenic is 4 per cent. in an axe, but very little elsewhere; antimony and iron are only slight impurities (*Illahun*, 12); also in a piece of sheet copper, of the same age, there was only 1 per cent. of tin (*Denderah*, 61). It is, therefore, puzzling to find in analyses of Berthelot a large amount of tin in four Old and Middle Kingdom specimens. Either there were errors in settling the age of the samples, or, perhaps, as they were small objects, they were cast in shape, and the more fusible alloy was used rather than the plain copper which was beaten for the tools.

In the XVIIIth dynasty, bronze came into common use, as will be noted farther on; but copper continued to be wrought for large beaten vessels in all periods, down to the present time.

Examples of the refinement of casting are shown in Fig. 10, a hollow ring, attached to some furniture, and now broken away round the outside; also in Fig. 11, part of a statuette shewing the metal only a fiftieth of an inch thick over the ash core. The heavy metal chisels were cast in open moulds of pottery, Fig. 13; in Fig. 14 is a chisel from a similar mould.

GOLD is generally credited with being the earliest metal used, and though it has not yet been found in the first prehistoric age, that may be due to the graves having been completely ransacked for it. It is well known that the eastern desert and Nubia were gold-producing countries down to Roman times; and whether the metal was named *nub* from the country, or the country from the metal, is an open question. Large quantities of gold rings were brought down as tribute in the XVIIIth dynasty. Other sources were, however, used in the Old Kingdom,

as is shown by the mixture of silver, forming electrum. Such native alloy is found in the Asia Minor stream gold (Pactolus, etc.); and as emery and obsidian came from the Aegean in prehistoric times, it is to be expected that electrum would also



1 : 2

13. POTTERY MOULD FOR CASTING CHISELS.
14. BRONZE CHISEL, FROM SUCH MOULD, XVIIIth DYNASTY.
15. LEAD FIGURE, PREHISTORIC.
16. LEAD NET SINKERS, XVIIIth DYNASTY.

arrive. The alloy with silver was recognised as different from *nub*, gold, having the name *usm*, or *zom*, which is given in the IIIrd dynasty (*Medum* xiii), and as early as Aha in the Ist dynasty (*Royal Tombs* II, x, 2). The examples are:—

		Gold.	Silver.	
Ist dynasty.	Zet	80	13	<i>Royal Tombs</i> II, 40.
"	Semerkhet ...	84	13	" "
"	Qa	84	13	" "
IIInd dynasty.	Khasekhemui	78	17	Dr. Gladstone.
	VIth dynasty	78	13	<i>Denderch</i> , 61.
	"	82	16	"
	"	92	4	(Berthelot.)

Much as gold has been sought for in the cemeteries, some is still found in almost every place that is excavated. The principal examples, put in historical order from our own work, are: Naqadeh, prehistoric beads; *Royal Tombs*, Aha bar, Zer jewellery, Khasekhemui sceptre and vases; Koptos, bangle; Riqqeh, pectoral; Lahun, great group of royal jewellery; Nubt, gold plated scarabs; Qurneh, mummy with jewellery; Gurob, gold pin; Ehnasya, gold statuette. Pef-du-bast; Defenneh, Ra statuette, handle of tray, and much fragmentary; Memphis, Hathor head, granulated earrings; and Naukratis, Roman jewellery. Of course, it is not found in excavations where the workmen are not properly rewarded.

Gold was largely used for gilding, covering entire tops of obelisks and whole doors. The sheet gold weighs about one grain to a square inch, which is about fifty times as thick as modern gold leaf.

SILVER is found coming into use at the beginning of the second prehistoric civilisation, with other Asiatic products. It was used for a cap of a jar, a spoon, and other small objects. Later, some were placed in the tomb of Semerkhet, of which traces of chloride remained after it had been robbed. Some silver jewellery is found in the XIIth dynasty, such as the royal hornet, with inlaid wings, and pieces of pectorals, from Harageh. Of uncertain age were the great feathers of silver from a statue of Min, found at Koptos. At Qurneh bangles of the XVIIIth dynasty were made with a row of small tubes of silver. A great quantity of silver vases are recorded in the papyrus of Rameses III. In later times silver is occasionally found, as at Zagazig and Defenneh, and a large silver chain at Tanis. As a whole, silver is quite as rare as gold in cemeteries and towns, although gold would have been sought for and removed more eagerly by robbers. Though the proportion of gold to silver coming from any one source would be determined mainly by the produce of the land, the totals given to the various gods by Rameses III during his reign must show fairly the relative amounts of the precious metals in use. It is not quite clear how far totals recapitulate; but the totals offered to the various gods amount to 9 cwt. of gold and 30 cwt. of silver; the grand totals named later are 20 cwt. of gold and 33 cwt. of silver. These are in the ratio 3 to 10 and 3 to 5. Roughly, therefore, the weight of silver was two or three times that of the gold; the relative values were probably not far from this. The value of gold to silver is said to have been as low as 2 to 1 in ancient India, and 6 to 1 in mediaeval India. In other lands it has usually been between 10 and 17 to 1, at present it is 33 to 1. As we know that gold was obtained in Nubia, and in the form of electrum from the stream washings of the Aegean, while silver could only be got by mining in North Syria, it is not improbable that the values may have been as 3 to 1 in Egypt.

Silver was probably commoner in Babylonia, as is shewn by the great engraved vase of Entemena, 14 inches high. This is a couple of centuries before Naramsin (4000 B.C. according to Nabonidus, or 2850 B.C. according to Berlin dating), contemporary with the Old Kingdom in Egypt.

LEAD is found almost as early as silver in prehistoric Egypt, being used for sacred figures (Fig. 15). Probably it was looked on as an inferior kind of silver. The sulphide of lead, galena, which is the commonest ore of lead, is found as an eye paint almost as commonly as malachite, in the prehistoric and Ist dynasty times. Both galena and lead are rarely found in the Old and Middle Kingdoms, but lead became very common in the XVIIIth dynasty. It is often mentioned in the tribute from Syria, and doubtless came from the Taurus, associated with silver, which is now found there. It became so common that country fishermen used it regularly for weighting the edges of fishing nets (Fig. 16) as is done at present, and it continued to be thus used in the XXVIth dynasty and Roman times. It is also found used for filling hollow bronze weights, and for adjusting a haematite weight by plugging a hole drilled in it. In the palace of Apries at Memphis, we find, as early as the sixth century B.C., lead was used for a catchment tank to receive the washings of the palace floors.

Lead was very common in Roman times all over the Empire. In Egypt it was used for a great variety of tokens, which are supposed to have been a small currency of local usage, struck to supply the lack of regular small coinage.

Lead was used frequently in later times for alloying with copper; the cheapness of the lead and fusibility for casting were the advantages. The strength, however, was very inferior to that of bronze, and it was only employed for statuettes, nails, etc., where an edge was not used for cutting. Strangely it occurs in Western bronze-age tools; sometimes in small proportion along with tin; but also as much as 30 per cent. in Brittany celts. As celts are also known made of lead only, and therefore certainly funerary copies, so it is probable that these lead alloys are only ceremonial. A great disadvantage of lead alloy with copper is that it separates when heated to the melting point of the lead, the latter draining away and leaving an alloy of 30 per cent. lead; obviously this property is what determines the Brittany alloy of 28½ to 32½ per cent. The alloy of 18 per cent. lead occurs as early in Babylonia as Bursin, contemporary with the Hyksos (Heuzey, *Catalogue*, 314).

TIN and bronze should be considered together, as, owing to tin being found in few regions, its source is the important question. Of the pure metal there are no early dated examples in Europe, some from the late bronze-age lake dwellings being probably the earliest known. In Egypt the first examples of pure tin are in the XVIIIth dynasty; a finger ring of tin was found at Gurob, and a thin cast pilgrim bottle of tin at Abydos (*Abydos* III, xvii, 50). As bronze is sporadically found at a much earlier date, the view is doubtless correct that tin was not reduced separately from the ore, but the mixed ores of copper and tin were used together. The weight of the great ingot of tin from Falmouth Harbour throws a little light on its date. It is 138 lb., which is 100 of the mina widely known in Mediterranean trade, formed of 50 so-called Phoenician shekels. This must not lead to supposing it cast for Phoenician trade, as this standard was usual in Syria, Asia Minor, Macedonia, Spain, and known as the Italic mina from use in Southern Italy. The celebrated octopus weight of Knossos is 40 of these same minae. This connection seems to show that the trade was earlier than the Roman occupation, during which the usual Roman *centum pondium* would be the standard.

BRONZE.—The earliest hardening material for copper was arsenic, doubtless made by reducing an arsenical copper ore, such as Fahlerz or one of the arseniates of copper. Such was found in the copper from the Ist dynasty tombs, without tin, lead, or zinc (Berthelot); in the XIIth dynasty hatchet with 3·9 per cent. of arsenic (*Illahun*); and in the Cypriote copper with 1·3 per cent. to 4·7 per cent. (Dussaud). Another means of hardening was by bismuth, amounting in some Ist dynasty examples to 1 per cent.; this was also doubtless produced by some copper ore containing bismuth naturally, and discovered to yield a superior metal for cutting purposes.

The earliest piece of true bronze known is the rod found in the foundations of a mastaba of the IIIrd dynasty at Meydum, which contained 9·1 per cent. tin and 5 per cent. arsenic (second analysis of unaltered core by Dr. Gladstone).

The ages of the Old and Middle Kingdom shew a curious contradiction of evidence. On the one hand tools analysed from Kahun shew almost pure copper, with never over 2 per cent. of tin.

	Copper.	Tin.	Arsenic.	Antimony.	Iron.	Total.
Hatchet ...	93·26	·52	3·90	·16	·21	98·05
Chisel ...	96·35	2·16	·36	0	0	98·87
Mirror ...	95·0	Some	Some	0	Little	
Knife ...	0	·5	0	0	0	

But analyses by Berthelot				Copper.	Tin.
Of a VIth dynasty fragment give	...	...	...	86.2	5.7
Of XIIth dynasty, ring from mastaba, Dahshur	...	...	...	76.7	8.2
hook...	...	...	...	69.2	9.8
bracelet	...	...	...	68.4	16.3
nail of Fuabra	...	...	...	85.0	1.0

Thus if the ages of these samples are well authenticated they would shew bronze to be usual from the VIth dynasty; but the only clearly dated piece, the last one, has scarcely any tin.

The difficulty is not removed by looking elsewhere. The daggers of the second Troy, contemporary with the XIIth dynasty, are of bronze with 8 to 11 per cent. tin. As a whole, Dussaud tabulates Troy, Crete, Cyclades, and Cyprus as using bronze in the XIIth dynasty, while Thessaly and Babylonia only had copper, or copper-lead alloy.

The present conclusion—until more analyses may enlighten us—seems to be that bronze was first brought down the Aegean in common use; and often, but not regularly, penetrated to Egypt during the XIIth dynasty. It did not come overland either from Italy or from the east. This points to a northern source for the tin. When we see how very important bronze work was later on in Hungary, how copper abounds there, and tin in the surrounding Bohemia, Saxony, Zinnwald, and Galicia, and that the bronze age in Hungary is placed as early as “the beginning of the second millennium,” or 1900 B.C., when it was certainly not common in Egypt, it seems not improbable that the Hungarian regions were the earliest source of European and Egyptian bronze. There was a well developed work in polished stone earlier in that region, which would provide a basis of culture for the early adoption of metal. Of the other possible sources of tin, Cornwall, Brittany, Portugal, and Spain are too distant, Italy is barred by the lack of bronze in early Thessaly on the road to the Aegean, and Persia would have supplied Babylonia and Egypt long before Europe, whereas they had bronze later than the Aegean. The Austro-Hungarian sources seem therefore to be the most likely for the earliest continuous use of bronze. No doubt it was produced occasionally by chance finds of ore, in the pyramid period and onward, but it was not regularly used in Egypt till the XVIIIth dynasty. Examples of wrought bronze are shown here in the very thin vases, Figs. 17 and 18, and the patterned bowl, Fig. 19. Fig. 20 is of rough hammered copper, probably of very early date.

On reaching the XVIIIth dynasty there is no question that bronze was the standard material in Egypt. The analyses are:

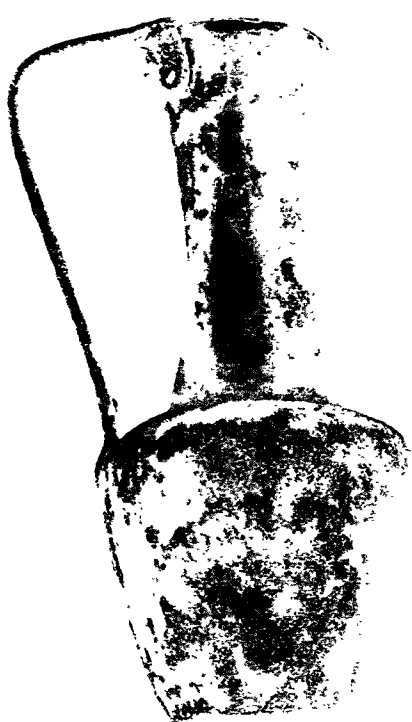
	Copper.	Tin.	Arsenic.	Antimony.	Iron.	Total.
Hatchet ...	89.59	6.67	.95	Trace	.54	97.75
” ...	90.09	7.29	.22	”	—	97.60
Ring, XIXth ...	77.5	9.6				
” ...	75.7	16.2				
Vase, XXth ...	76.8	15.1				
Arrow head, XXth	81.9	12.2				
Statue base, XXIInd	77.9	5.0				

Yet copper was used for some purposes, as in a foundation deposit of Sa-amen, XXIst dynasty. These alloys with 5 to 16 per cent. of tin vary as those of western bronzes, which contain 7 to 14 per cent. of tin.

IRON has had more contradictory statements made about it than any other metal. The recent discovery of the earliest iron, by Mr. Wainwright, gave occasion

to sum up all the known examples, and here we may repeat them with some comment.

The earliest examples are the Gerzeh beads, of S.D. 60-63 (*Labyrinth and Gerzeh*, p. 15). These were made of hammered iron, and so scarce was it that the



17



18



19



20

I : 2

HAMMERED BRONZE AND COPPER WORK.

- 17. VASE WITH LOTUS HANDLE. BRONZE, $\frac{1}{8}$ -INCH THICK.
- 18. VASE "WASHER OF SANDALS OF AMEN, TEHUTI-HEFEP." BRONZE, $\frac{1}{8}$ -INCH THICK.
- 19. BOWL WITH HAMMER PATTERN. BRONZE, $\frac{1}{8}$ -INCH THICK.
- 20. COPPER BOWL ROUGHLY HAMMERED. $\frac{1}{8}$ -INCH THICK.

17-19. XVIIIth DYNASTY. 20. EARLY DYNASTY.

beads were threaded alternately with gold beads. Next is the well known piece of sheet iron, declared by Perring to have been found between blocks of stone of the pyramid of Khufu at Gizeh. Then Sir Gaston Maspero cursorily mentions in his catalogue of the Bulaq Museum, 1884, that in 1882 he collected many fragments of picks of iron in the black pyramid of Abusir, of the Vth dynasty. In both of these cases there is lacking a certainty that the iron was not left by some later destroyers of the buildings. An absolutely dated case is that of the mass of rust, apparently from a wedge of iron, found stuck together with copper adzes of VIth dynasty type, at the level of floors of that age in the early temple of Abydos.

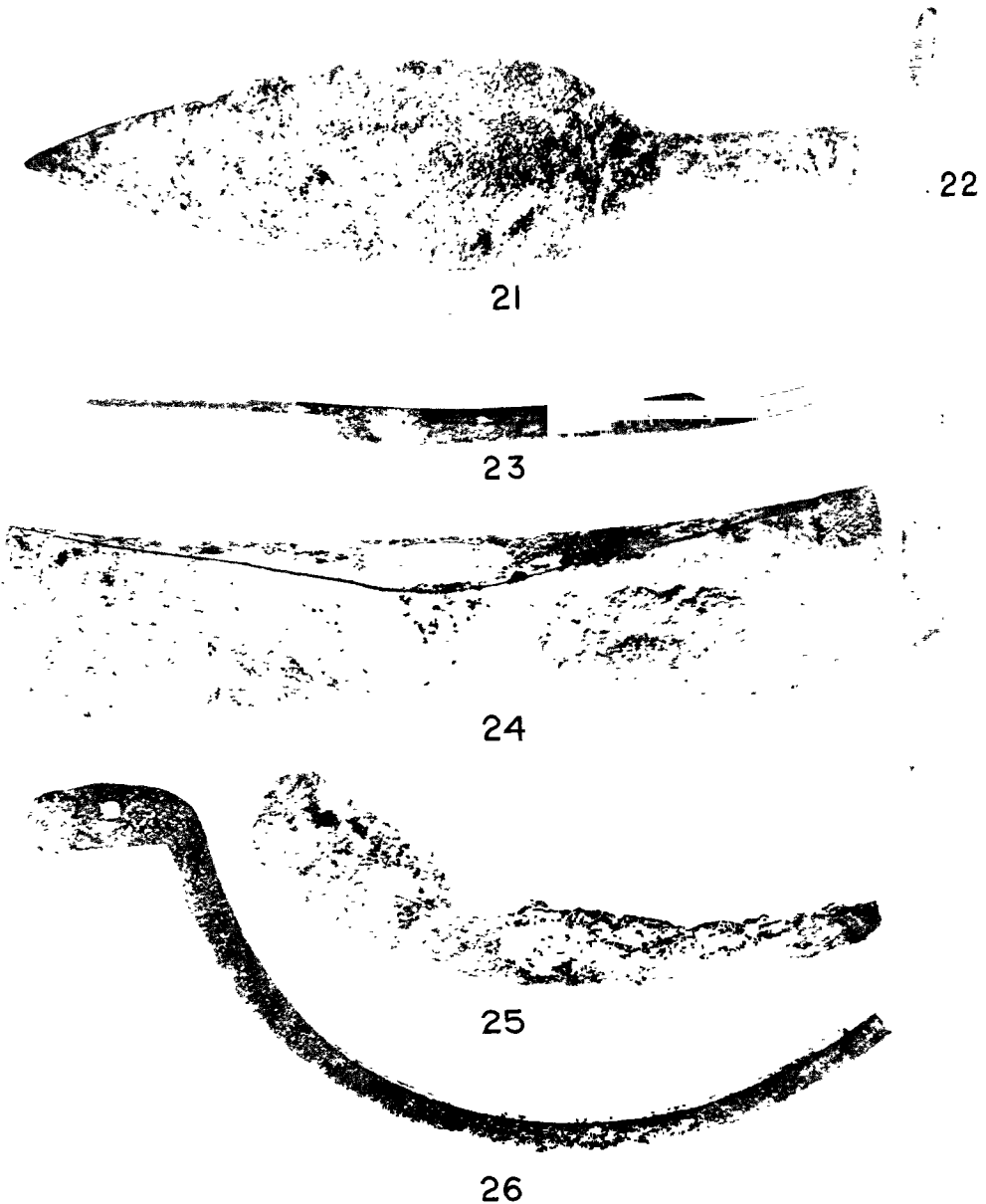
Coming to the XIIIth dynasty, there is the iron spear head (Fig. 21) found in Nubia by MacIver, in the inner chamber of a multiple tomb, which contained altogether fifteen skeletons in position, with gold ornaments and a copper dagger, and therefore was apparently quite unplundered. From the pottery and beads, this tomb (K. 32)—like others near it—was of the Middle Kingdom; it is said to be of the same age as K. 8, which contained the name of Neferhetep, the twenty-first king of the XIIIth dynasty. Contemporary with this is probably the iron stated to be found in the second city of Troy.

Attributed to the XVIIth dynasty, on unknown grounds, is the pyramid of Muhammeriah, near Esneh, where Maspero records finding a point of an iron chisel and a ferrule of a handle, in the mortar which united two blocks of stone (*Bulaq Catalogue*, as before). Attributed to the XVIIIth dynasty is an iron stud from a box, and an iron finger ring, in the Ashmolean Museum. Most unquestionable of all is an iron sickle which was found by Belzoni beneath a sphinx of Horemheb, in the avenue leading from the temple of Mut to Karnak. This is therefore fixed to about 1330 B.C. At Troy an iron knife is said to be about 1500 B.C. This is also the very vague date given for tombs by the Indus containing iron. The sculptures of this age, representing double bellows and beating metal (ROSELLINI, *Mon. Civ.*, plates L, LXIII), have no connection with iron working. The beating is evidently being done in the cold, as a man holds the metal with his hands; and a finished vase, of the usual form in copper, is shown beyond him. The bellows are only an improvement on the older reed blowpipes, used always before this time for smelting work.

We can now review what may be called the sporadic Iron Age. The supposition often put forward that iron might entirely disappear in course of time, is a mere fallacy. When buried in earth iron rusts much slower than if exposed to air, and in many situations it is remarkably preserved. When it has at last been turned to rust, it has become a material which can never disappear. A lump of oxide of iron is practically insoluble when buried, and its strong colour and staining power make it very obvious. To remove all trace of it when buried would be impossible within the human period by any conditions.

The relative number of examples of iron to those of copper and bronze must therefore give us a fair idea of the proportion in which they were used. The iron was always sporadic, in no period or place has anything like a large proportion of iron been found in the period before us. It seems impossible therefore to suppose that it was intelligently produced by an understood process as a regular manufacture. If men could produce at will a pound, they would produce before long a ton, and iron would be freely used where it was applicable. Yet this was not the case at any time before 1200 B.C. It seems therefore that the sources of the sporadic iron must have been either native iron or else casual production by accident. The great quantities of pure haematite in Sinai, and the enormous eruption of ferruginous basalt

there, which probably burnt up forests in its outflow, are ample material for producing either accidental or native iron. Two other points are clear: that the iron was not meteoric is proved by its malleability in the first instance; that there is no reason to question the less indubitable cases is shown by the completely proved and recorded cases of the prehistoric beads, the VIth dynasty lump, and the



9 : 20

IRON TOOLS.

- 21. SPEAR HEAD, XIIth DYNASTY. (MACIVER, *Buhen*, Pl. 88.)
- 22. KNIFE WITH CAST BRONZE HANDLE, XXIIIrd DYNASTY?
- 23. KNIFE, XXIIIrd DYNASTY? RAMESSEUM, with 22.
- 24. DOUBLE AXE.
- 25. SICKLE WITH INSERTED STEEL TEETH.
- 26. SICKLE WITH GROOVE FOR TEETH.

XIIIth dynasty spear head. No shadow of doubt seems possible about these, and so all the other instances may be accepted.

Now we may turn to the developed Iron Age, when the use of the metal was continuous and extensive. It began to be used in Egypt at about 1200 B.C. There is the halbert from the sand bed of the foundations of Ramessu III at Abydos (*Abydos* II, 33); the iron knives found in the brick arches of the Ramesseum, where the objects of living use ceased about 1100 B.C. One knife is very slight in the blade, but has a bronze handle cast upon it (Fig. 22), showing that bronze was the more usual material. Another knife (Fig. 23) is entirely of iron.

The very important instance that has lately come to light is the iron sword with cartouches of Sety II, 1214–1210 B.C., now in the Berlin Museum (*Zeitschrift Aegyptische Sprache*, L, 61, plate V; and *British School Athens*, XVIII, 282). This sword, though much rusted, appears to be of the same type as a more perfect iron one from Egypt, which is of the European type, of Hungary or the Balkans. It occurs also in Cretan tombs of the age just after the Mykenaeen and before the geometric style, exactly agreeing with our previous dating of the Mykenaeen age. Now one important point is that this type of sword is more commonly found of bronze than of iron, in Crete and Europe; hence 1200 B.C. must be about the beginning of the free use of iron; had it been common before that in Europe such swords would have all been of iron. Also at 1200 B.C. comes the great overthrow of the Libyan invasion, when 9000 bronze swords were taken, showing that iron was not yet usual. This agrees with the previous, and quite independent, assignment of 1200 B.C. as the date of iron beginning to be used in Crete. There is thus a fairly close fixing of the turning point, from archacological evidence.

The next great stage is the free use of iron in Assyria. In 881 B.C. iron came as tribute from the Chalybes region, south-east of the Black Sea. About the same date it was obtained near Carchemish. At 800 B.C. 5000 talents of iron were captured at Damascus. About 700 B.C. there was the immense store-house of iron in crude ingot, estimated to contain 160 tons of metal, as well as finished articles.

In Egypt, a group of iron tools found at Thebes is dated, by an Assyrian helmet, to the invasions of 668 or 666 B.C. (*Six Temples*). These are the parents of many modern forms; and most of them are of steel, sufficiently to take permanent magnetism. Rather later iron tools are common in the Greek settlement of Naukratis, but they do not appear in purely Egyptian sites.

Many suggestions of an Ethiopian source of Egyptian iron have been put forward. Had iron been usual there at an early date it would probably have become familiar in Egypt. So far there is no ground for supposing that any of the slag heaps at Meroe and elsewhere in Ethiopia are earlier than the considerable civilisation of that region, which began with the XXVth dynasty and continued from 700 B.C. onwards.

The sources of the European and Euphratean iron would be quite sufficient to account for the iron found in Egypt, even apart from the Ethiopian. Yet iron slag is often found in crucibles at Memphis, Defenneh and Naukratis, showing that in Greek times the ore was reduced in Egypt, from whatever sources it came. For Western Europe doubtless Noricum was the main source, as that region—the modern Styria—is one of the greatest and earliest centres of iron working. For Assyria the Chalybes region, south-east of the Black Sea, and the Tiyari mountains, north-east of Nineveh, would be the sources. It is almost certainly through the Chalybes that the Greeks first knew this iron, as they called it *khalups*, a word that

seems foreign in its form. There were two tribes of Chalybes, which are most fully mentioned in the *Anabasis*, and by Strabo. One was in the north-west of Armenia, the most warlike people of the region, wearing helmets and greaves, and armed with a long spear and a falchion. Across the mountains there were the other Chalybes along the Black Sea, behind Cerasus, who lived by working iron, and a little west of that iron working has continued to the present time.

The name of the Chalybes, from which the Greeks took their name for the metal, is apparently Semitic in origin. It seems obviously connected with the Arabic *halaby*, a tinker; and with the well known mutation of *h* and *s* we can hardly refuse to see in this the *soluby* or steel-worker of Arabia. This word *solb* for steel is Semitic, as it is clearly derived from iron being the strongest material; *solb* is loins, the strongest part; *salib* is firm or hard; *salebah*, solidity; *solb*, steel; *soluby*, a steel-worker; *halaby*, a tinker; *Chalybes*, the iron workers; *Chalups*, iron; and our own word chalybeate ends the chain.

Whether the distinction between *sideros* and *khalups* was that of iron and steel, deserves to be considered, certainly the Assyrian tools found in Egypt are mostly mild steel, as they can be permanently magnetised. The distinction in use of iron and steel is most marked in the sickles of Roman age, where the body of the sickle has a groove all along it (Figs. 25, 26), in which is fitted the thin strip of the more valuable steel cut into a saw-edge (*Ehnasya*, 23). One of the finest iron tools is the large double axe, Fig. 24; unfortunately the date of it is not known.

ANTIMONY was worked in Mesopotamia, where it was used pure, and also as an alloy in copper. In Egypt beads of antimony are found, of the XXIInd dynasty, and therefore they may have been brought in from the East. It is generally reputed that the *kohl* eyepaint is sulphide of antimony, but that is the rarest material. In prehistoric times galena and malachite were regularly used for the eyes. In historic times, out of 34 analyses 21 are of galena, 5 ochre, 3 malachite, 3 manganese, and only 1 each of magnetite and antimony. It does not seem, therefore, that the Egyptians had any ready source of antimony.

ZINC has only been reported once, as 1½ per cent. in a piece of prehistoric copper. Probably if looked for it would be found in metal of the Roman period, as the Roman coinage is mainly of brass. Coins of the first two centuries of the empire average 12 per cent. of zinc, and only 2 per cent. of tin, and 1½ per cent. lead (SMYTH, *Catalogue of . . . Large-Brass*).

Osm-iridium is found occasionally as an impurity in gold of the XIIth dynasty, in the form of small hard white specks. The object of the Egyptian would certainly be that of the modern worker—to get rid of it if possible.




Some of the above material is due to Prof. Gowland's lecture on "The Metals in Antiquity" (*Journ. R. Anthropol. Inst.*, 1912, 235), which is valuable for the accounts of known sources and processes, though not so complete on the historical side. Dussaud's *Civilisations Préhelléniques*, De Morgan's *L'Âge de la Pierre et les Métaux*, and the records of my own excavations have supplied the main facts. It still remains most desirable to have a much larger number of analyses of exactly dated examples. A spectroscopic examination of ores from different sources, for detecting rare elements, might give the clues to the origin of the various ancient supplies of metals.

W. M. FLINDERS PETRIE.

PERIODICALS.

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Recueil de Travaux relatifs à la Philologie et à l'Archéologie égyptiennes et assyriennes, Vol. XXXVI, 1914. Liv. 1-2.

 und  . HERMANN KEES. In the frequent figures of the *ka* following a king, with the falcon-name or *ka*-name on the head, there is usually the inscription over it describing it as "the king's *ka*, life of the lord of both lands, *khent zebt khent per duat*." It has long been a question what localities are described by these names *zebt* and *per duat*. One inscription at Denderah adds *per dua em het seshesht*, "in the temple of the sistrum," i.e., of Denderah. This implies that the localities belong to a temple. Further, at Denderah and at Edfu a chamber is called the *per duat*. It is too small for active ceremonies, and was probably a wardrobe. The scenes on it show the king purified with water and incense; the king's *ka* purified with incense; and the king's bones with natron. It appears also to be the name of part of the palace, as there is a title in the Old Kingdom *Her seshta ne per duat*, "over the secrets of the *per duat*." When Sanehat returned to court the king ordered his officials "Go ye to the *okhenuti duat* that he may renew his position," suggesting that it was the wardrobe of the court. Regarding the *zebt*, there is a title *shemsu ne zebt*, also *sehes zebt* and *mer zebt*. The first occurs on the temple of Ne-user-ra. From these evidences, and much collateral material of less direct weight, it is concluded that the *per duat* and *zebt* were parts of the primitive palace; like all other parts of the palace they became transformed into the temple system.

Sallier II, p. 1, l. 8.—G. MASPERO. A short note points out a mention of a place for combats of bulls, a regular arena. This agrees with the mention by Strabo of regular bull fights in the dromos of the temple of Ptah at Memphis.

Notes on the Story of Sinuhe.—ALAN H. GARDINER. This is a supplement to Dr. Gardiner's edition of the story, giving parallel text of those parts which are duplicated in various sources. There are now thirteen sources known, most of which are of only a short passage on ostraca, probably writing exercises.

Das Felsheiligtum des Min bei Achmin.—HERMANN KEES. This is an account of the rock shrine in the cliffs north of Ekhmin, with hand copies of the inscriptions compared with those of Lepsius. It dates from Thothmes III, with additions by Ay and Ptolemy I and II.

Recherches sur la famille dont fit partie Montouemhat.—GEORGES LEGRAIN. I^{me} partie, *Les enfants de Khaemhor*. Chap. III^{eme}, *Branche Nsiptah*. This is a continuation of the list of monuments reported in *ANCIENT EGYPT*, 1914, p. 37. The list continues:

XLVI. Chapel of Tahraqa in the temple of Mut.

XLVII. Statue of Grant collection.

- XLVIII-LIX. Funeral cones of Mentuemhat.
 LX. Base of statue of Mentuemhat.
 LXI. Stele of adoption of Nitoeris.
 LXII, LXIII. Group of Mentuemhat and Nsptah II.
 LXIV. Table of offerings of Nsptah II.
 LXV. Statue of Nsptah II.
 LXVI. Statue of Psenmut dedicated by Mentuemhat II.
 N.N. Bronze fitting of gate of Da-ast-hebu, dau. Mentuemhat.



BLACK GRANITE HEAD OF MENTUEMHAT. TEMPLE OF MUT. CAIRO.

The relationships of all the persons named here are as follow :—

	Astkhebt	\	Da ast hebu II ?
	Neskhonsu	\	Nesptah.
Nesptah I	—Mentuemhat I	\	Pa sen mut—Mentuemhat II.
Astkhebt	Uzarans	\	Zed khonsu afonkh ?
	Shepnemut	\	
	—Nesthoth.		
	—Horsaast.		
	—Da ast hebu I.		

Mentuemhat the great ruler had four wives ; the children of two are known, but the mothers of the other two are uncertain. The total limits of the above four generations is about 750 to 600 B.C. Mentuemhat had concentrated most of the great titles ; hereditary noble, prince of Thebes, keeper of the royal city and of Nekhen, sealbearer of Upper Egypt, fourth prophet of Amen, scribe of the temple of Amen, instructor of the priests in the temples, keeper of the royal land to its limits. In official acts he and his son took precedence of the high priest of Thebes.

Bemerkungen zum Atonhymnus.—FR. W. VON BISSING. This is a criticism of small differences in the various examples of the Aten hymn at Tell Amarna. The conclusion is that most of the errors and variants arose from the sculptor rendering in columns of hieroglyphs the documents written in lines of hieratic.

Note additionnelle sur "Le N° nome de la Haute-Égypte."—B. TOURAINEFF. A description of a stele at Moscow giving figures of six divinities of Aphroditopolis, the Osiride family and Atmu. The latter god seems to have been represented as two hawks on a standard, like the ensign of Koptos. The stele was for a priestess of Atmu Ta-khredt-ast born of Ta-khredt-khonsu.

Une stele de Hawara.—G. DARESSY. This stele of the Ptolemaic age bears long inscriptions, which are here given in full. The person was a prophet of Neit, Pedasebek son of Peda and Nefru-sebek. The father's name contains that of god walking holding the *user*. The longest text is a copy of the *Book of traversing eternity*, of which but few copies are known. The usual text is printed here in duplicate with the stele. Another long text is an appeal to be remembered, not of the old vigorous kind of the Middle Kingdom, but very diffuse and vague. He boasts that he did not sit out and gossip on the mastaba. He was a councillor to his district, no girl wept because of him in the time of prosperity, but each mourned when he was enfeebled. He made every one that he instructed to know his duty, purified and guided him. There is a *nesut da hetep* to Amenemhat III, in which Pedasebek is written Pen-sebek.

Monuments égyptiens divers.—RAYMOND WEILL. 1. An archaic cylinder of grey glazed pottery. The inscription is rudely incised, "Horus *mery tau*(?), vulture and uraeus *nebt*y, Horus, *Aty* the king standing." It appears as if after *mery* there were *ta* with two strokes of earth sign. If so this would be of Pepy I, which would be likely enough otherwise. A cylinder of the MacGregor collection is compared with this, but there are no signs in common, except Horus and *mer*, and it is certainly of a different king. Another cylinder of white pottery has a stag twice repeated on it.

2. Clay impressions of the basalt cylinder of Khufu, which has been for some years in University College, London. These clay impressions were made by the Arabs, and were commonly to be seen on sale. Capt. Weill supposes that two different cylinders were used to make the impressions, and that the impressions came from some ancient group.

3. A cylinder of dark blue glaze of Assa, curiously cut off short at the top, leaving only the feet of the falcon. It was for a "*nesut rekh* chief of the prophets in all places, prophet of Neit north of the fortress." This title was parallel to that of Ptah south of the fortress, both referring to the positions of the temples to the Memphis fortress.

4. Another example of a dog with the Berber name *Behu*, like the dog *Behuka* of the Antef tomb, has been met on the remains of a tomb cut up for sale. It appears to be of the Vth dynasty.

5. A piece of a limestone tablet, with squares ruled on it, and the cartouche Ra-mäot engraved. This is connected with two scarabs which have the name Ra-mäot Sebek-hetep. This name is not yet known on any larger monuments, and the position of it is obscure. It is probably of the XIVth dynasty.

6. A wooden stamp has a cartouche on it, surmounted by feathers. It reads *Amen neb* and a uræus.

7. An order scribbled in hieratic on a potsherd, refers to a case to be made by a carpenter, of which a sketch is put below the writing. The sketch has by it, at the side "Height 5 palms," along the top "Width 4 palms," and the proportion of the sketch agrees to this. Further out on one side is "4 in the *menu*"; hence *menu* is the name for the horizontal distance away from the eye, what we call "deep back." The proportions are familiar enough in the boxes for funeral objects, about a foot square and fifteen inches high, with a small cornice. Capt. Weill, however, supposes it to have been the stone basis for a statuette.

8. An account is given of a fine tomb at Tunch, which contained a sarcophagus now in the Cairo Museum, and many ushabtis now scattered. This was of Tehuti-ardas, son of Shepses-ardas, both high priests of Hermopolis.

9. A broken lid of a stone box, with a bound captive lying on it, bears the name of Sheshenq III.

10. A small ivory pendant, in the form of a couchant bird, has on the base a figure of a king squatting, and a blundered cartouche of late time.

11. A throne of a seated figure, coming from Saft el Henneh, bears inscriptions of Kharu (the Syrian), born of Pa-un-nekhti and the lady Tādaher.

12. Some of the inscribed blocks are described that have come to light in the recent cleaning of the Deir Amba Shenudeh, or Deir el Abyad or White Monastery. They are of Aahmes, and a shrine of Hakar of black granite. Strangely no notice is taken of the great red granite shrine of Naifaarud, which has anciently been cut up and used to floor the nave of the basilica. A reference to the Research Account volume *Athribis*, p. 14, would have supplied this, and also explained that the ruins near the monastery are those of an earlier Christian church and town, and not of a pagan temple, as is suggested in this paper.

13. Some pottery stands are formed of three closed vases, joined by cross pieces; they are of Coptic date.

Einige Bemerkungen über den Thronwechsel im Alten Reich.—AMÉLIE HERTZ. This paper calls attention to the uniform formula of the beginning of each reign on the Palermo stone, which was already noticed some years ago. First is *nesut bati khou*, the manifestation of the king of Upper and Lower Egypt; then the union of the lands, shewn by entwined plants around the *sma*; then *deben hā anub*, "procession round the wall" as it has been rendered. Perhaps "procession behind the fortress" would be a closer idea. It is again proposed that this is a ceremonial at the beginning of a reign, a perambulation of the boundaries to take possession. There follows a discussion of the months and days named for the fractions of years beginning and ending reigns. Unfortunately they have been wrongly extracted, 10 for 9 months, and ignoring the months lost in fractures of the stone. The

intervals really appear as follows, those with a ? being inferred from the space now damaged :—

Mena (?)	6 m.	7 d.	} 10 m. 20d., interregnum 45 d.
	+ 4 m.	13 d.	
Shepseskaf	3 m. ?	24 d.	} 11 m. 5d., interregnum 30d.
	+ 7 m. ?	11 d.	
Neferarkara	9 m.	6 d.	} 11 m. 13d., interregnum 22 d.
	+ 2 m.	7 d.	

Note sur l'Isthmus de Suez.—JEAN CLÉDAT. This paper describes various objects from Tell el-Maskhuta.

1. The upper and lower end pieces of a door, cast in bronze, with a dedication “Bastet give life to Peda-atum son of Peda-khonsu, born of the lady of the house Tada-hernepe, year 6.”

2. Bronze base of a statuette with inlaid silver inscription of Nepat the goddess of grain, dedicated by the scribe of rolls of the palace Zed-neit-auf-onkh.

3. Head of rose granite of Saite period, of a servant of Bastet, *uartu* of the, named Uakaremen. A large scarabeus rests on the head.

4. Handles of green glazed sistra of Aahmes and Nekht-nebef; one names the temple in Paqerhet.

5. Fragments of a blue paste cup of Aahmes.

6. Fragment of a green glazed plaque with falcon name of Nekht-nebef.

7. Fragment of black granite, mentioning either Pankhy or Cambyeses.

8. Bronze Osiris, with dedication by Nesptah son of Tayfden.

9. Bronze Harpocrates, with dedication by Aoha-ardas son of Penefu-dabastet, born of Peda-uazet-pe-nefu.

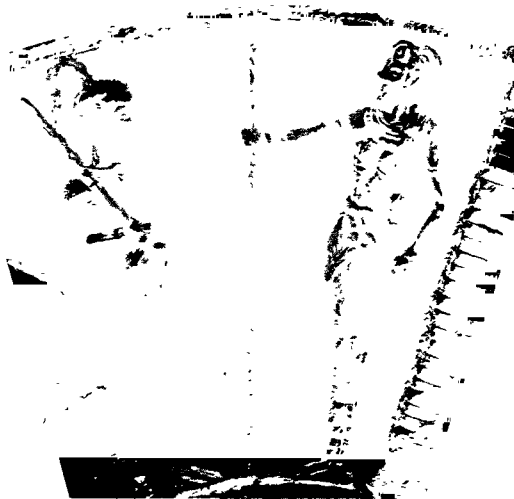
10. Bronze Osiris, dedicated by Peda-pep(?).

11. Fragments of sculptured limestone, of Nekhthorheb, one with the head of Nut, and naming the gods within the temple of Paqerhet.

REVIEWS.

Les Civilisations Préhelléniques dans le Bassin de la Mer Égée.—RENÉ DUSSAUD. Large 8vo, 482 pp., 325 figures, 13 plates. 24 frs. (Geuthner, Paris.) 2nd edition. 1914.

This work, which appeared a couple of years ago, has here been re-issued with revision and many additions. It was much needed as a general view of the subject for those who cannot have the large number of scattered publications in which the discoveries of the last decade have appeared. The requirements have been well met in general, without neglecting any part of the wide field. It is only to be expected that in such a range some part of the facts or reasons should escape the summarist; and such points that we may notice here do not reflect on the construction of the work as a whole. We hope that future editions will give scope for rendering it still more suitable and exact. It will perhaps be most convenient here to give an outline of the volume, noting minor matters by the way, and then to deal with some larger questions at the end.



1.



2.

RELIEFS ON THE STONE VASES OF HAGHIA TRIADA. Scale 2 : 3.

The work is divided into six chapters on different regions, and two general chapters on the religion and ethnology. Crete naturally comes first, with 81 pages, as it has yielded a more continuous view of the early civilisations than any other of the regions. The main sites are described, Knossos, Phaestos, and Haghia Triada, following well known details. No attempt is made to explain the remarkable feature in these palaces of the very wide flights of steps, 35 to 45 feet wide; they seem to point to large groups or fraternities in procession having been a main feature of the religious festivals. The tombs are described, with the strange ossuaries, which seem to show the same custom as in modern times, of removing

skeletons from graves after two or three years and placing them in an ossuary. Nine types of grave are now recognised, no one of which extends over more than three of the nine Minoan ages.

The discussion of the pottery, metal work, painting, and other arts is arranged by periods, and is fairly complete. The only regret is that some of the supreme examples are poorly rendered. The figures of the great conical vase of Haghia Triada do not shew the very important details of the helmets, nor other points; and the cup is in bad perspective, shortening the figures. We here give photographs from casts of these, as they are not sufficiently known (Figs. 1 and 2). Another matter which yet claims representation is the beautifully varied series of stone vases from Mochlos, which give a marked character to the early period (Figs. 3-7).



COLOURED MARBLE VASES FROM MOCHLOS.

3, 4. COPIED FROM EGYPTIAN.
6. INFLUENCED BY EGYPT.

5. EGYPTIAN, VITH DYNASTY.
7. TYPICAL CRETAN.

(From *Scager's Mochlos*.)

The exquisite blade of a dagger from Mochlos, with its fine arched ribbing and trefoil ornament, gives perhaps a more vivid sense of the taste and feeling of its period than anything else that has survived.

The table of stratification of Knossos shews the astonishing fact that the whole of the nine classified periods occupy less thickness than the great neolithic stage beneath them. It is true that in some periods a great deal was swept away when founding new buildings, but yet the classified age of probably four thousand years cannot be much longer than the neolithic. We are thus faced with a continuous settled life in Crete quite as ancient as that of the pre-historic Egyptian. In the table of chronology it is strange how the consistent and detailed history left by the Egyptians is ignored, as if it had no more foundation than the vague guesses which modern writers try to substitute for it. The Egyptian history is not a supposition

of any modern writer, but a consistent mass of national record preserved by many sources, which very few people take the trouble to understand.

In dealing with dress, a strange remark is made that the appearance of the corset must be relatively late because it supposes the use of copper. It is very doubtful if there ever was a metallic corset till a century ago; probably all the peasant corsets of Eastern Europe now are built with beech-wood busks. The curious baggy dress shewn on a Cretan seal is closely like a dress which came into fashion in the XIXth dynasty in Egypt; it is unlike anything before it in either country, and perhaps therefore due to some third centre (Figs. 8-11). Unfortunately



BAGGY DRESS, GREEK AND EGYPTIAN.

8, 9. SEALINGS FROM ZAKRO.

10. CRETAN SEALING.

11. EGYPTIAN, XIXTH DYNASTY.

no authority is given for the assertion that the female sphinx is represented in Egypt from the IVth dynasty; it is usually believed that such are not known before the XVIIIth dynasty. Surely, also, the well-known octopus weight is of red gypsum and not of porphyry.

The second chapter is on the Cyclades, and here the material is not so hackneyed as that of Knossos. A general outline of the system of tombs, and the use of obsidian and metal, comes first. Then the remains of Thera, Delos, and Melos; where Phylakopi with its succession of three towns is described. The pottery series of these towns is quoted and figured from Mr. Edgar's researches. It is expressly stated that Melos is the sole source of obsidian work in the Aegean; if so, it is remarkable that some found in Egypt is referred to Samos by the Mineralogical Department of the British Museum. Obsidian was used together with metal, and was given up only in the latter part of the bronze age. The discussion of lamps leads to a misunderstanding of a lamp with a sub-chamber, which is supposed to be for catching drippings of oil. Any oil that dripped through the pottery oil-holder would as readily soak into the body beneath. It can only be explained as a water chamber—not to keep the lamp cool, but to

saturate the pottery, so that the oil should not soak into it. Such a system in Egypt is described by Herodotus, and found provided in the limestone lamps of the XIIth dynasty.

A brief chapter is given to the Trojan discoveries, stating the stratification of the successive cities and their ages. The dates are unfortunately given in the arbitrarily reduced chronology; it is much clearer to keep to the dynastic equivalents. The first two primitive towns were of the Old Kingdom (IV-VI); the great second age, to which belonged all the gold jewellery of Schliemann, is of the Middle Kingdom age (XI-XIV); three villages fill up the Hyksos age; and the Homeric Troy is of the XVIIIth and XIXth dynasties.

The fourth chapter treats Continental Greece pretty fully. The great sites are described; and Malta is also brought in, illustrated by pottery and a figure, though no plan or description is given of the great structures there. The glass from Spata is described as usually white, more rarely blue; the white is really a decomposed blue. It is stated to have been poured liquid into moulds, but all early glass was worked in a pasty state, and pressed into moulds. In the third period of Orchomenos, called Minyan by the excavators, and dated at Phylakopi to the Middle Kingdom (pp. 182-3), the tall-stem cups (p. 186) occur which are much like the Hittite "champagne-glass" cups of the same age (see *Ancient Egypt*, I, 172). This strongly points to some connection, of trade rather than of race, which also extended to Egypt, where such long-stemmed cups or bowls were made in the early part of the Middle Kingdom. Another remarkable occurrence is that of the steatopygous figure in Thessaly with purely neolithic work of an early type. This is probably later than the steatopygous figures of the French caves, but perhaps before the similar figures of Malta. An interesting remark is that the mainland buildings have fronts with two pillars and three openings, whereas the Cretan style is with one pillar dividing the entrance in two. Such is also the style of rock tombs in Palestine, perhaps derived from the Cretan invasion. The supposed Phoenician sources of the Mykenaeen culture is rightly repudiated; the Phoenician power arose much later than growth of any pre-hellenic civilisation. Some brief notice is given of the Sicilian, Italian, and Iberic connections, the latter of which is, however, very uncertain.

Cyprus is treated at length; as a land of such a secondary art it receives undue notice compared with the original styles of other lands. The miserable mismanagement of its antiquities during British occupation is described, as well as the earlier frauds of Cesuola. Prof. Myres' work is recognised as the basis of scientific classification, and the different periods of the pottery are fully stated. The metal work is also well described. The largest copper adze found in Cyprus (Fig. 185, 12) is of exactly the form of the copper adzes of the Ist dynasty in Egypt, some of which are half as large again. This points to Cypriote copper being already worked at that date.

The whole question of the thrusting and cutting weapons is hardly put in shape. An entire distinction should be made between the rapier and dagger with mid-rib, which are for thrusting, and the flat sword and flat dagger with rounded end, which are used for cutting. The mid-rib type belongs to pre-historic Egypt, Cyprus, and Mykenae; the flat blade is found in Syria, and the Hyksos and XVIIIth dynasty periods. The varieties of attachment are noted by rivets or by a tang, but the meaning of the difference is not noted. The rivets are required for attachment to handles of ivory or horn, the short round handles generally used for thrusting; the tang is intended to fit through a longer handle of wood or bone,

grasped by the whole hand, and more generally used for slashing. A doubt is expressed whether the Aegean smiths influenced those of Europe and Scandinavia; the evidence of the diffusion of spiral design should suffice to shew such influence, if not, indeed, a real family of work.

In the chapter on the Aegean influence in Egypt and Syria the author seems to be less at home in his material. He states that in the Ist dynasty the Egyptian texts call the population of the Aegean isles *Hanebu*. Certainly there is nothing until late times to shew where the *Hanebu* lived, and it would be interesting to have any reference to the *Hanebu* so early as the Ist dynasty. The black ware of the Ist dynasty at Abydos, which is absolutely identical with that made in Knossos, is quite ignored; as also are the northern decorated vases found in the Royal Tombs and at Abusir. Whatever may be their source—Aegean, Asianic or Syrian, at present unfixed, they shew an important trade connection with the north. Also the great mass of fragments of over 700 Mykenaeen vases found at Tell el-Amarna is barely hinted in a footnote. Thus the most important connections, by their age, and by their numbers, scarcely appear, and the proportions of the historical connection with Egypt are not shewn. With a characteristic disregard of the reader, not a single illustration is given of the Old or Middle Kingdom connections, except one at the end of the chapter; while pottery of the iron age, from Cyprus, is thrust into the early Egyptian discussion.

The Egyptian gryphon of Mentu is said to be derived from the Mykenaeen gryphon, but the derivation is clearly from Egypt to Greece. Less than eight pages are given to the Egyptian relations, although they are the basis of the history; and only four illustrations appear, which are quite insufficient.

The Syrian and Cypriote connections are much more fully handled. There is no hint as to the abundant Egyptian dating of the brown *bulbils*; these are here classed as Cypriote, with imitations from Syria. The best part of the chapter is the discussion of the bowls with rows of imitations of Assyrian and Egyptian subjects, dating from about 700–550 B.C. While Poulsen would put them to the credit of the Phoenicians, Dussaud gives reasons, from the Aramaic dedications and the subjects, for their being Cypriote. Some assertions seem to need support. That "the primitive potter was often a nomad" is hard to reconcile with the regular use of skin, wood, and basket vessels by nomads, ancient and modern. There is not a chip of pottery to be found on the South Palestine sites, even though they were settled towns for ages, because the nomad usages prevailed. The long series of types of Syrian pottery published by the Palestine Fund are quite ignored. The Gezer game-board (Fig. 217) is called an idol, although it is a



12. POTTERY GAME-BOARD OF 60 HOLES.
XIIIth DYNASTY, KAHUN.

well known type found in perfection in Susa, with exactly the same system of holes for recording like a cribbage board; and it is also found with the same holes in Egypt (Fig. 12). That a counting game-board was modified to a suggestion of the human figure does not imply any religious meaning. The body of the chariot on the Enkomi ivory is said to be derived from Assyria; but just the same form occurs long before, from the tomb of Amenhotep II at Thebes. The *Tridacna* shells with Assyrian motives are illustrated, and their Cypriote origin considered. A fine plate shews the strongly Assyrian style of the votive bucklers from Crete; this was perhaps due to direct influence through Asia Minor, as there is nothing of Cypriote style traceable. On the whole, M. Dussaud inclines to give Cyprus a much more important place than would seem warranted by the entirely borrowed sources of its work, from Egypt and Assyria. It was only original in its clumsiness and poverty of design.

The chapter on Cults and Myths takes us back to the refreshing originality of Crete. The seals, frescoes, and figures of religious subjects are fully given, and their meaning discussed, in a chapter which is the longest in the volume. Of course the Cretan cross is figured, but no mention is made of it in the text; at least it should be remarked that the stem of it is a conjectural restoration.

The last chapter, on the Aegean Peoples, deals with different branches of the civilisation, as well as the ethnology. The shipping is well illustrated; but in the alphabet question, which occupies sixteen pages, there is apparently no consciousness of the fact that the signs discussed were all used by the Mediterranean peoples and in Egypt long before the Phoenicians. The Phoenician tradition dominates, and it is said that the prototype alphabet must have been composed of twenty-two letters identical with those of the Phoenician alphabet. The regular scheme of repetition which is imbedded in the alphabetic order proves that much is missing, and that much has been added to the prototype alphabet. Further on, we find a similarly antiquated point of view as to the identity of the Mediterranean peoples named in Egypt; for we here see Sagalassos, Sardes, Ilion, Dardanians, and others doing duty as they did fifty years ago. Modern work has put the whole subject in a different point of view.

We may now turn to some of the general questions involved in this work. There are important historical data as to the rise of the civilisations of certain lands. In the Cyclades there is no neolithic period, and they do not appear to have been inhabited before the copper age (p. 100). The western coast of Asia Minor, excepting the Troad, does not seem to have had any civilisation before the age of the XVIIIth dynasty (p. 203). The Akhaian invasion of Greece, about the XVIIIth dynasty, brought probably the earliest Indo-European speech to that peninsula (p. 441). These are all landmarks of importance in the early ages.

An unexpected boundary to the Aegean culture is presented by Thessaly, where there is no link with the south before the XVIIIth dynasty, but on the contrary a neolithic age and a copper age which are a whole cycle later than elsewhere (p. 190). Moreover, Sicily and Southern Italy are linked with the style of Northern Greece down to that time. It is only in the Mykenaeen stage, late bronze age, that Northern Greece and the West, with the whole length of the Adriatic, came into line with the Aegean (p. 212). We must realise, therefore, that the Cretan civilisation touched its bounds on the west and north, near by in the Peloponnesus, while it stretched out on the other side to Egypt and Syria.

A valuable table at the end shows the relative periods of nine different regions; the equivalence of the stages side by side enables the comparisons to be readily

grasped, and we need not complicate it by the very questionable dating in years. One of the most significant results is the difference in the introduction of bronze. In Crete, the Cyclades, Troy, and Cyprus bronze appears in the age of the XIIth dynasty; yet Egypt then remained in the copper age, and bronze does not regularly appear there till later. This bears strongly on the origin of bronze, shewing that the tin came from the north, and not from the east. The abundance of bronze at an early period in Hungary suggests that the Zinnwald may have been the source of tin then, as it has been in later ages.

Regarding the chronology followed in the table and elsewhere, it is a remarkable admission that the strongest reason to be found for the short dating is that the palace of Knossos of the XVIIIth dynasty age is built upon the foundations of that of the XIIIth dynasty (p. 56). As the whole ground was cleared for the later building the superposition must be expected, whether the interval were one or ten centuries; and it no more shows a connection of age than do our modern buildings of London which cut into the Roman wall. Each case only shows that a thorough clearance of loose soil was made. There seems to be not a single clear piece of evidence to set against the solid and consistent history given by the Egyptians. An excellent warning against assuming that similar things are contemporary is given on p. 62; to which we may add that the *larnax*, or pottery-box coffin, belonging to about 1200 B.C. in Crete, is identical with that made at the beginning of the Ist dynasty in Egypt, two thousand years before, even on the shortest reckoning.

A very important assumption is that of Alashiya (which is so frequently named in the XVIIIth dynasty) being the same as Cyprus (p. 248). The question of the position of Alashiya is not discussed, and the minute study of all the evidence by Mr. Wainwright is never mentioned. That writer's exhaustive consideration of the land of Keftiu is summarily rejected without any reason (p. 199). The whole question should be much more thought out by M. Dussaud. He attributes much importance to Cyprus, while Mr. Hall has lately shown that Cyprus and Egypt had very slight contact. We find continually the assumption that Kaphtor, Keftiu, and Crete were all identical, and that Alashiya was Cyprus, one word being substituted for the other without any hint that the author is translating his facts by surmises. We see that Mr. Wainwright—exhaustively using all the facts and keeping strictly to them—finds that there is no confusion or mistake in the Egyptian paintings of details. His results are therefore certainly preferable to those of our author, who concludes of the Keftiu that "the detail is not always comprehensible" (p. 285), and "often the artists put more haste than conscience in their work, and we have the proof of it when they mix, in the hands of foreigners, Egyptian with exotic products, or when they attribute Aegean vases to neighbouring peoples such as the Retenu of Syria" (p. 287). When assumptions are so freely made as to identifications, it is to be expected that the confusion of the modern writer should be attributed to the ancient painter.

The reader's difficulties have been thoughtfully met in one way, by giving a warning when two sites of similar names might be confounded. Other difficulties are not sufficiently considered, as there is hardly enough systematic grouping put forward. Tables of the periods and localities, placed before each chapter, would enable a reader to grasp the meaning of descriptions much more easily. In one case it is needful to track from a description on p. 101 to find the types stated on pp. 107-8, and then to go back to the illustration on p. 85. The general description seems to have been written first, and the precise facts and figures dropped in

afterwards. The main grievance is that the figures and text so often part company; the view of Phaestos is put into the account of Knossos, the plan and view of Haghia Triada into the text of Phaestos, the most important subjects on pp. 67-70 have nothing to do with the text there, the weight from Knossos is put into the Cyclad tomb chapter, the descriptions on pp. 101, 169, and 313 have no references given to the illustrations, which are strayed far away, and there is no description to Fig. 279. The whole adjustment of figures and text should be sternly kept in hand by the author, and the printer not allowed to make such confusion. The publisher keeps to the disastrous custom of paper covers that will not hold together. A volume of nearly 300 pages of thick heavy paper, lightly stitched and unbound, will not bear any opening without falling to pieces. When will French publishers put a sixpenny board cover on books costing a pound, so as to save them from ruin?

It is greatly to be hoped that the present troubles will not long delay a third edition of this valuable summary, improved by more systematic treatment and further study. There is no other work which gives so useful and complete a survey of one of the greatest advances in ancient history.

Aegean Archaeology.—By H. R. HALL. 8vo, 263 pp., 33 plates, 112 figures. 12s. 6d. 1914. (Lee Warner.)

This volume gives a well-ordered and systematic account of the pre-Hellenic civilisation in its various branches. The material is of course familiar to those who have read recent books, and there is no fresh light on the subject; but for many readers who wish for a connected view of what they only know by stray fragments, this will be a valuable handbook. The full references will serve as a key to the more detailed publications. One may only regret that so many things are mentioned without any illustration; really a portfolio of everything that is known in this subject is what is much wanted now for students.

An outline of all the excavations and sites serves first of all to put the reader in touch with the localities and course of discovery. Early Troy is carefully fenced out, as not being Aegean in culture; yet, as it is on the Aegean, whatever is there found is in "Aegean archaeology," and deserves to come in as much as any other culture. The stone and metal work occupies the next chapter, noting especially the vases with reliefs. A full account is given of the varieties and styles of pottery, both of Crete and the Cyclades; and the importance of pottery is emphasized, as being continually changing, abundant, and not worked up again like metal objects.

The town and palace plans are discussed in detail and illustrated. Another chapter deals with the shrines and tombs. Decoration, painting and sculpture are fairly exemplified. The writing is described, but some example of the Cretan language, as preserved in Greek letters, would have been of interest, to give an idea of the sounds actually used. Lastly the surprising costume is described, and the weapons and tools. Thus a comprehensive view of the type of life and methods of the civilisation is fairly given.

Some slight oversights may be noticed. Red porphyry is named more than once, though on the next page (66) it is correctly called purple gypsum. It is suggested that the Egyptian "neolithic" potters turned to making stone vases on the introduction of metal (p. 72); but metal has nothing whatever to do with the grinding of stone vases, and the stonework fell off along with the pottery, and decayed as metal came into use. The lustrous black ware is not turned red by overfiring (p. 74) but by access of air in the burning. The sloping-sided door is

not "Egyptian" (p. 122), being never found in Egypt. Grey colour was often used in Egypt (p. 179), generally for grounds, as at Saqqareh, Meydum, and Qurneh. The sword and rapier are confused, as is usual (pp. 247-9, ; the dagger can scarcely be derived from the spear-head, as it is much older in Egypt, and was probably a more primitive form of flint weapon.

In general, we may welcome the prominence of the real bases of archaeology—the importance of pottery as a dating material—the partial repudiation of the fable that objects "work down" in strata, the supposed instances shewing merely unobservant digging—the remark that it is easy to go wrong over the time intervals between strata. Mr. Hall condemns the German habit of framing theories regardless of facts, as illustrated by the solar theories of Max Muller and his school, which captivated an ignorant world; and it is well said that "Archæology then came to the rescue of history from the morass into which philology had dragged her." There is, however, another Germanism which strangely is still in full force in this book—the Berlin theory of Egyptian chronology, which defies all the history and the collateral facts which support it. Archæology will not come into her own until facts rule and theories serve. Mr. Hall shews in this book a freer style than usual, with more comparisons, and more enthusiasm, which well befits the introductory purpose of such a volume.

The Tomb of Hesy.—By J. E. QUIBELL. 4to, 40 pp., 32 plates. 56 frs. 25. 1913. (Cairo Museum; Quaritch.)

It is singular how little has been known of the tombs from which the most celebrated works have been brought. The figures of Rahetep and Nefert came from tombs at Meydum, which were left neglected till the beauty of the sculpture was ruined, and were afterwards largely destroyed; the tombs of the Sheykh el Beled statue, and of the panels of Hesy, at Saqqareh, had been lost to sight, and it is only by hunting up memories of half a century ago that Mr. Quibell has recovered the clues from the last surviving workmen of Mariette.

At the north of Saqqareh, above the village of Abusir, a cemetery of some 500 mastabas has been recently cleared; they were nearly all small, and not of individual interest. Among the few large ones, that on the top of the hill was the most important, built at the beginning of the IIIrd dynasty for the great official Hesy, or Ra-hesy, "rewarded by Ra." This is 141 feet long and 69 wide; but at first it was only about half that size each way, and was enlarged twice or three times. It still stands sixteen feet high, but was originally much higher. In the second facade which was built were placed the celebrated wooden panels in the recesses of the false doors. There were originally eleven, but only five and a fragment of another remained undecayed. Of these panels excellent photographs are given in this volume, of which we reproduce, in our portraits, one which is not usually known. The wall which enclosed this facade, forming a narrow corridor, had painted on it a series of offerings; these were discovered by Mr. Quibell, and the careful drawings of the paintings form the most important part of the publication.

The first question that arises is whether this long series of elaborate paintings are of the actual size of the objects. As these are by far the earliest paintings of property, and are remarkably detailed, it seems not unlikely that they would be made like the objects, not only in form and colour, but also in actual size. A difficulty in the enquiry is that not a single plate has any scale on it, except the plans; nor is any scale stated in the text except that of a plate of fragments and

one of patterns, not even the stone and pottery vases have any hint of size to them. From three chance mentions of the length of objects it may be gathered that the scale is 1 to 11·4 of reduction from the wall drawings in the plates. The scale of the detailed figures in the text, and of the coloured plates, varies without any rule, or any scale attached. This omission is a serious bar to making use of so elaborate and costly a publication. Taking, however, the scale of 1 to 11·4 for the wall plates, it appears that the actual sizes of some paintings are as follow:—copper axes, $3\frac{1}{2}$ to 4 inches wide; handles, 19 to 20 inches long; balance beams, 8 to $13\frac{1}{2}$ inches long; alabaster tables, 16·4 inches diameter, 5·7 to 6·4 inches high; tent pole, 83 inches long; boxes, $15\frac{1}{2}$ to 16 inches square; seat, 13 inches wide, $11\frac{1}{2}$ inches high—seats are usually narrow, those from Qurneh were $17\frac{1}{2}$ inches wide, 10 inches high, others $12\frac{1}{2}$ and 11 inches wide; bed-frame poles, 57, 40, $65\frac{1}{2}$, 63 inches long—actual bed poles are, half of them, about 70 inches, and the other half 38 to 62 inches; *sekhem* sceptre, 23·8 inches long, agreeing with usual proportion to a figure; head rests, 7·3 inches high, 6·0 inches wide—actual head-rests average 7·5 inches high, and 5·0 to 7·7 inches wide. Thus in each case the painted figures seem to be well within the usual variation of the actual sizes of such objects, and we may be justified in regarding them as having been directly measured off from the objects themselves. The importance of this we shall see presently. We will now follow Mr. Quibell's description of the paintings, with further discussion of their real meanings.

All over the false door front of the mastaba are painted the elaborate chequer patterns which are well known on early tombs; they are here shown with a row of loops along the bottom edge by which the coloured material is lashed down to a bar along the top of the dado. Evidently they were originally woven hangings, the detail of which is here copied. The strange white-on-black chain pattern is here, but is still quite inexplicable.

At the dark inner end of the long corridor are painted four lamps on tall stands, 40 inches high, in the position where such lamps would be needed. The outer wall of the corridor has, at the inner end, just the foot showing of a life-size figure of Hesy. At his side are three cases for papyri, doubtless the registers of his property. Before him is first the serpent game; it has seven coils divided into over 500 sections. Before it is a tray with three lions and three animals, which are most like lionesses, yet they wear collars as tamed animals. With these are six groups of six balls each, apparently twelve black, twelve red, and twelve yellow. There is at Saqqarah a scene of playing the serpent game with balls on the divisions of it: these balls and lions belong, therefore, to the game here.

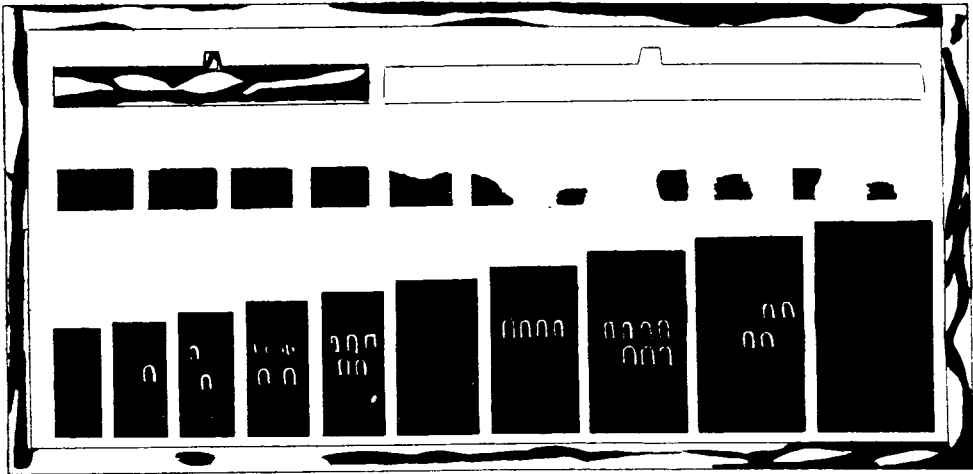
By this is the usual 10×3 game board, with numbering beginning at the bottom right hand, as in later times. The tray of pieces contains two rows of seven men of the usual thimble shape, and four gaming reeds, two with black cross lines and two with red. These reeds were, therefore, used to throw—like dice—to show a chance number.

A third game is a long narrow board divided across in sixteen yellow bands, alternating with sixteen narrower green bands. The tray of pieces with this contains five black and five white tablets, like blank dominoes.

Three trays of tools lie beside the games; they are nearly alike, and the best preserved painting shows the saw, axe, three chisels of different widths, drill, bow for drill (?), drill cap, and two stone hammers, or polishers.

Below the tools are two trays, each containing two balance beams of different lengths, and two sets of weights (Fig. 1). The smaller set, of 11, is too much

damaged to trace its system. The larger set of 10 is numbered from 10 up to 100; the sizes imply that the thickness of the weights increased proportionately to the length and breadth. Taking the largest, of 100 units, it is 5.22×2.88 inches by the drawing, or exactly 15 square inches; at the usual gravity of hard stone, 2.7, this would be 10,200 grains for each inch of thickness. The usual thickness for such stone weights is about half their width, so that it would be about 14,000 or 15,000 grains. This is just the 100 *qedet* weight. If of the gold standard it would need to be 2 inches thick, which is a less likely proportion. In the second tray the set of small weights seem to be replaced by a set of small measures of capacity. That very small bulk measures were used, we know by the set of bronze cups from Nubt, which were for measuring gold dust, in a long binary series from $\frac{1}{2}$ to $\frac{1}{128}$ of a *deben*. (*Naqada*, p. 67.



1. TRAY WITH BALANCE BEAMS AND WEIGHTS NUMBERED 10 TO 100.
TOMB OF RA-HENY.

Next are two mysterious objects, nearly 12×14 inches, which might possibly be a kind of sieve formed of narrow strips of wood, used in searching for precious stones. Beyond are two red leather bags of about the same size, with necks falling over and tied; perhaps used for storing precious stones or gold. Two circular stone tables on conical stems, which follow, are of the type usual in the early dynasties.

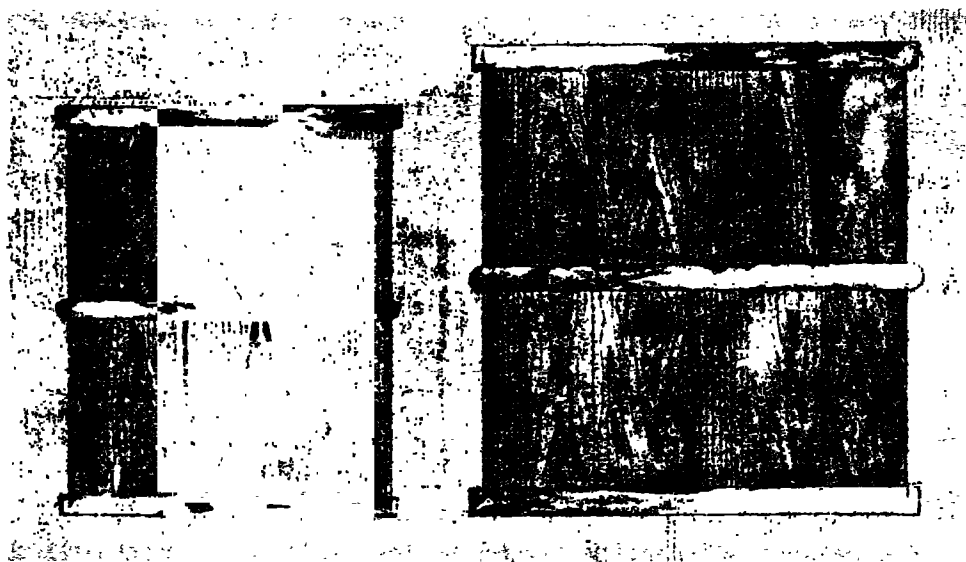
The most remarkable group of the whole now appears, two series, each of 14, of graded measures of capacity: the upper series made of wooden staves, coopered with top, bottom, and middle bands (Fig. 2); the lower series, coloured red, probably of thin beaten copper. On comparing these two sets they are seen to be of the same series of sizes in both materials. As the copper must have been thin, the wood must also have been very thin for the contents to be alike. The wooden set is evidently for dry measure, the metal set for liquids. Each measure nearly follows the modern rule that the depth is equal to the diameter. As we have already seen that the sizes of the drawings are probably the same as that of the objects, and that this is strongly confirmed by the weights, we may now apply this result to the measures. The diameter is obvious, and the thickness of the metal would not appreciably alter the capacity. The depth should be measured from the top of the bottom band, as probably showing the internal depth. On extracting these, and

taking the average of the two series (or stating both if very different) we have the following results in cubic inches:—

cubic inches.

960	960	32×30.0	
502	502	16×31.4	
378			$378 \quad 16 \times 23.6$
190			$190 \quad 8 \times 23.7$
91			$91 \quad 4 \times 22.7$
58.2	58.2	2×29.1	
27.5	27.5	1×27.5	
21.8			$21.8 \quad 1 \times 21.8$
15.9			{ 15.9 $11.3 \quad \frac{1}{2} \times 22.6$
11.3			
8.6			
7.3	7.3	$\frac{1}{4} \times 29.2$	
5.3			$5.3 \quad \frac{1}{4} \times 21.2$
3.7	3.7	$\frac{1}{8} \times 29.6$	
3.0			
2.4			$2.4 \quad \frac{1}{8} \times 19.2$

In the first column are the whole of the measures. In the second column it is seen how six of them closely agree in a binary series; and in the third column seven others agree in another binary series, as nearly as can be expected from the wall drawings and modern copies from them. The unit of the second column is between 29 and 30 cubic inches; that of the third column is about 23 cubic inches.



2. DRAWINGS OF TWO WOODEN MEASURES OF 16 AND 32 HONS. TOMB OF RA-HESY.

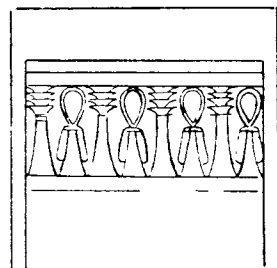
The Egyptian *hon* was $29.2 \pm .5$ cubic inches, agreeing with the second column. The Syrian *saton* or *sabitha* was 740 cubic inches, which $\div 32$ is 23.1 cubic inches. This is also $\frac{1}{10}$ of the *issaron*, or $\frac{1}{10.6}$ of the *epha* of Hebrew measure. As the tomb is filled with sand to preserve it, an exact measurement of these most important points cannot be made until some day when it may be re-opened. Even as the facts now stand we seem to have here data of the first importance for ancient metrology, as there are few good determinations of capacity measures, and those of a late date. We need now exact measurements to a hundredth of an inch of all these drawings of weights and measures.

Beyond are four chests on legs ornamented with rows of *zed* and *thet* signs (Fig. 3); the latter was also found as an amulet of yellow glaze and of blue glaze. With the chests are four larger chests or trays. Above these are 8 poles, from 41·5 to 64·6 inches long, and 5 tent poles of 83·0 and 87 inches long.

Next are three high chairs, one with a back; also a low seat with a back and one without, both having bulls' legs as in the 1st dynasty. A bed frame, 61 × 22 inches, is over these; it has the sacking stretched by a cord, looping it to the frame all round. Following this are two sloping wooden bedsteads (?), 62 inches long; a sloping couch with stretched sacking, 37 inches long; a sloping bedstead of 62 inches; and four bedsteads with head frames, 63 inches long. It is a surprise to see how generally the actual couch frames found in graves are much shorter than the height of a person. We are driven to suppose that the early Egyptian usually slept contracted on the side, in the attitude of the burials.

There next follow two rows of boxes and baskets, of which eighteen remain. Among the articles in them are two *sekhem* sceptres; three headrests, one carved in one piece, one with a column and abacus stem, and one with two columns, an interesting variety all dated together; a tray of eye paints; a tray with scribe's palettes, colours, and water pots; two trays with tweezers of the 1st dynasty shape, and wig curlers (?); coils of thread and string, and stone vases, come next; boxes with domed lids that cover them over contain stone bowls of the gap-mouth type of the Old Kingdom, and circular stone tables.

This tomb, dated to the beginning of the IIIrd dynasty by a sealing of King Neter-khet, forms a landmark in the early civilisation; it fixes the forms of vases and tools in the intermediate time between the Royal Tombs and the pyramid tombs; it also gives a most unexpected light on the metrology. Every detail of woven pattern in the cloths, of the form of furniture, of the shapes of hieroglyphs, is full of interest in the history of Egyptian civilisation. Happily, thanks to Mr. and Mrs. Quibell, it has all been published almost as fully as we can wish, and we hope that the questions remaining will be settled next time that the tomb can be unearthed.



3. CASKET SHOWING *zed*
AND *thet* DECORATION
TOMB OF RA-HESY.

The Life and Times of Cleopatra, Queen of Egypt, a Study in the Origin of the Roman Empire.—A. E. P. B. WEIGALL. 8vo, 410 pp., 14 plates. No Index. 16s. (Blackwood.)

Romance is delightful, and so is History, but the combination of the two may not improve either. Scott happily labelled his history as romance; but Mr. Weigall labels his romance as history, seriously calling it a *study* in the Origin of the Roman Empire, and we must therefore take it from this point of view. Yet the preface argues against giving any of the evidences on which a new reading of history is here presented. If a writer is accepting the usual views and lines of thought, it may not be needful to give reasons for what is generally known; but when a fresh view is urged, and colours most of a volume, it is essential to state all the grounds for it, and not to refer to quotations as a "jargon of scholarship" to be "swept into the world's dust-bin." A romance is a romance, and its illusion is ruined by the horrid footnote, "This is a fact." But a "study," which claims to show a new standpoint

must be justified by facts, and that justification is unhappily lacking at the most critical points.

We must sympathize with any endeavour to put a period of the past into its work-a-day terms, and for such a purpose enough general references are here given to enlighten an ordinary reader. For a popular restoration, to give a living sense of a period, such a treatment is sufficient. Taken as being intended to make the public have some understanding of one of the greatest crises of the world, it would be a meritorious work, however some matters of taste may jar on us. But when a new rendering of the great politics of the time is thrust forward as a main subject, we need to take it critically, and not as matter of light reading. Mysticism in Religion may be in its place, as that concerns the individual only, and may be the key for his character; but Mysticism in History, reading the author's suppositions into the springs of action of the past, is a dangerous process unless it be very fully supported by plenty of evidence, and unless the writer shows also his care not to exceed the scope of his material.

The position of Cleopatra has been largely misunderstood in all ages; in some respects Mr. Weigall rightfully states it, but the most important legal position he ignores. It hardly needs emphasis now, that the moral standpoint of our age is peculiar, and will not fit any other period of history. We stand apart from all other times in making various professions which are ignored in practice. To apply our professions rigorously to the acts of the present majority would be fatuous, to apply them to the acts of the past is still more absurd. But because—partly from political prejudice, partly from later changes,—the acts of Cleopatra have been misunderstood, that does not justify us in trying to misplace her in a different direction, proclaiming that because she was not Phryne she was therefore Egeria.

The basis of her whole status and actions was that she was hereditary queen of Egypt. The Egyptian throne, like other property in that land, descended by female right. In the earliest times we find that kings were seldom, if ever, the sons of their predecessors. The royal daughters were brought forward at the great feast of the deification of the king, apparently to be married to his successor. This matriarchal system naturally led to a compromise with the patriarchal descent, by which the royal daughter was married to her half-brother, a son of the king by another mother. Such marriages were usual in the system of the early Hebrews and the classical Greeks, and even the full-brother marriage was allowed in Roman Egypt. Throughout the Ptolemaic dynasty the queens had led a predominant part; political action, intrigue, and the raising of armies were their special sphere, and only matters of trade and actual fighting seem to have been outside of their management. The brother and sister marriages were the rule; and in the close of the dynasty the two sisters Arsinoë and Cleopatra were so much older than the boy brothers that all political action rested with them. When Arsinoë was once removed, Cleopatra remained the sole real ruler of the land. What was thus to happen if a foreigner intruded and took possession of her rule? When the Persians conquered Egypt, a fiction was at once put about that Cambyses was descended from the daughter of the last legitimate king, Apries. When Alexander took Egypt, his maternity could not be falsified, so a fiction of his descent from Amen was framed to satisfy Egyptian ideas. Though the Ptolemies appear to have kept their family entirely in the Macedonian race, yet three centuries of occupation, adopting the Egyptian administration and system, would put Cleopatra in the full status of hereditary ruler, and, through marriage with her, any man would be legally established as king of Egypt.

The connection of Cleopatra with the successive rulers of Egypt, Cn. Pompey, Caesar and Antony, and her wish to pacify Augustus for the same end, was therefore her peremptory duty as heiress of Egypt. Such a political duty was nothing new in the land. The heiress-rulers of the Thebaid, Shepenapt, Neitaqert, and Ankhnes-ra-nefer-ab, were all political consorts of the kings of the XXVth dynasty, even without being their co-habiting wives. The political duty of a marriage was quite familiar to Egyptian ideas. The political position of itself produced such marriage.

It is therefore quite irrelevant to the private character of Cleopatra to insist upon her having been married in the European sense to the *de facto* ruler of Egypt. Her public character was vindicated by her devotion to the lord of Egypt, whoever he might be; she had done her duty to her country and to herself as ruler, when she took her place as spouse of the conqueror, and bore children to him. To have deserted her position, and refused to follow the fortunes of her country would have been political infamy. For us to insist in calling her wife, in assuming that some ceremony of "a purely Egyptian marriage" took place, in speaking of her as being "deserted by her lover," is to put her in the place of a western woman instead of an Egyptian heiress, to rule her conduct by the European laws of private life instead of by the Egyptian laws of public life. The whole subject of marriage law in Egypt appears to be one of a contract concerning property, in hand or prospective. No religious sanctions or ceremonies are known to have accompanied it. Even under Christianity, and in the family of a priest, a marriage contract was only concerned with the liberty of action, and of divorce by either party for a stipulated sum. If such was the case with ordinary private marriage, obviously no ceremonial was needed when the status of the parties was already fixed by the force of events, quite irrespective of any ceremonial marriage. Should we have had such glowing accounts of the magnificence of Cleopatrean banquets, and yet not a word of a festival which would have been the most important of all to western writers, if it had ever taken place? There was no such marriage ceremony, because it would have seemed entirely superfluous. The heiress of Egypt was at once *de facto* and *de jure* the spouse of the lord of Egypt by her position alone. She did not desert Antony at Actium, she merely followed her duty as heiress of Egypt to retreat there when the lordship was to be changed, and prepare her land and herself for a new lord. If added to her political situation there was a wealth of private feelings and a world of passion, she was bound to restrain that in its results as completely as a modern princess, who is condemned to marry politically and not as a private woman. Any other view of the western kind is merely misreading the situation by not understanding it.

The personality of Cleopatra is one of the most interesting on record. There seems to have been a fresh element beside the regular Ptolemaic stock. Her forefathers for centuries had never learned the language of the country they ruled, and some even forgot their native Macedonian, and could only speak Greek. They showed no trace of linguistic faculty; yet Cleopatra could speak seven languages, of all the countries with which she had to deal. The kings had been latterly notorious for gross bulk and pleasures of the table; Cleopatra was lithe and sprightly. Who was her mother? Her father seems, by the family history, to have made a second marriage, but with whom is not on record. Perhaps with some princess of Syrian stock, who could show a Ptolemaic descent, and so keep up an hereditary claim on Egypt. The clue to the character of Cleopatra seems to lie in the history of her unknown mother, and it is beside the mark to term her a pure Macedonian.

The characteristics which struck the public attention were her magnificence of design, shewn with good taste supported by profusion, her wit and fascination of address, her wisdom in practical matters, all blended by an incalculable versatility, "she gamed, she drank, she hunted, she reviewed." There is but one comparison with this brilliance, the great queen of Palmyra who harangued her soldiers with a helmet on; with the severity of a tyrant when necessity required, and all the clemency of a good prince; born with the tenacity of a Spaniard; sober, yet having no scruple to drink with her officers; with a magnificent table and service; speaking at least four or five languages, fond of literature; having black eyes incomparably lively and glittering, a divine spirit, and most delicate shape and presence, with a clear manly voice, as Pollio tells us. These two greatest of queens may well have had a common ancestry in some Syrian princess.

Whatever folly attaches to the history of Cleopatra is due to the childishness of Antony, his vacillation, conceit as a general, lack of foresight and bad management. The queen tried to laugh him out of his hanging upon her, but in vain. Her sound sense and good feeling was shewn in her care of her children, and equal nurture of them all. In every turn of affairs her personality was the main element; and even at the age of thirty-eight—old for a Levantine—she bewitched the envoy of Octavian.

The characters that have stamped themselves on the mind of the world were all marked out by their intense vitality. Alexander, Julius, Cleopatra, Zenobia,—in a lesser degree Charlemagne and Henry VIII,—all were versatile, and yet excelled in every kind of action. It was their number of activities, all things to all men, and their supremacy in all directions, which has justly made them each more important than a myriad million of common mankind.

We may now look at the position of Julius as regards Egypt. To get the riches of the most wealthy land around the Mediterranean had long been an object of his. He tried to get appointed to Egypt when Cleopatra was only four years old. Blocked from the east by the ambitions of more powerful men, he turned to make himself a power by the conquest of Gaul. For eight strenuous years he built up a military strength, greater than that wielded by any Roman before; and then returned with that to subdue Rome and the world to his will. To suppose that such a will, so tenacious, so ambitious, should after those long years of undisputed power, suddenly find at the age of fifty-four a new scope of life at the bidding of a young woman, is too much for our author to require of us. The vision of Cleopatra teaching Caesar ambition, and moulding his politics, is so improbable that very clear facts would be needed to support it. But there is no evidence whatever for the idea of Caesar crossing to Egypt to learn his business. He came so soon as he could, to grasp the wealth which he had tried to reach seventeen years before, and his intended Parthian expedition was but treading in the steps of Sulla and Crassus.

The position of his son Caesarion is obscure. That Julius owned him is certain, that he regarded him as his heir is very doubtful. It seems fairly shewn by Mr. Weigall that Caesar stayed at Alexandria till the birth of Caesarion, whether for that or for political reasons cannot be settled. The position of Cleopatra with her infant son at Rome, by no means implies that Caesar could have made her queen of Rome. It is doubtful if even *his* will could have put a foreigner into that position. A century later, when all kinds of foreign mixture and looser marriage prevailed, Titus had to dismiss Queen Berenice from Rome when he became Emperor, and could not invite her to a joint throne for which

there was no other legal occupant. That Caesar wished to legalise his oriental union for Egyptian purposes is doubtless true; the proposal, however, was not a law to put away Calpurnia, his Roman wife, but to sanction the recognition by Rome of his having two wives, one in Rome and one in Egypt. For that end it was desirable to familiarise the Romans with the fact of his only known descendant being the son of Cleopatra, and her stay in Rome was for that end. But it does not in the least follow that if Caesar were to be formally king, in name as well as fact, that Cleopatra would be therefore queen of the whole Roman world, as Mr. Weigall assumes. She would then be queen of Egypt indefeasibly in Roman law, but not more. If the object were to make her queen of the Empire, nothing more was needful than for Caesar to have repudiated Calpurnia and taken Cleopatra instead, as readily as dozens of other political divorces and marriages were then arranged. That he did not do so is proof that there was an entire bar to Cleopatra becoming queen of Rome, a bar in law or in the good sense of Caesar, who after all watched his democracy very carefully.

The powers that Caesar assumed are quoted by our author as hereditary (159); yet the imperatorship was not hereditary. Mommsen says: "It is only in the case of the supreme priesthood that we have express testimony to his having made it hereditary." (V, xi.) The idea that without Cleopatra and Caesarion "the creation of a hereditary monarchy would be superfluous" (p. 168) is to import our ideas into Rome. In Rome, as in Babylonia and China, adoption was so important a function in social and family life, that it often took the entire place of descent. The hereditary laws of Caesar's position would only apply in Roman eyes and Roman law to his Roman heir, the adopted nephew Octavian, and could never be applicable to the son of a foreigner. To argue that a law of inheritance of an office would apply to Caesarion, is to suppose Rome ruled by English law. The heir was obvious and well known, the adopted son Octavian, of years for politics, and not the foreigner's baby who could not be of account during any likely survival of Caesar. No evidence whatever is given for the assertion that Julius had a "scheme for training up Caesarion to follow in his footsteps" (p. 170).

The next great possessor of Egypt was Antony; and it was his policy to support Caesarion, as a harmless infant, to balance the immediate political claims of Octavian as Caesar's heir. It is remarkable how none of the Julian family were succeeded by a son: it was only the XIth and then the XVIIIth Emperor who inherited a father's throne. Yet Antony was the ancestor of three emperors, his grandson Claudius, great-grandson Caligula, and great-great-grandson Nero.

The account given of Octavian is strangely spiteful; all the infirmities and valetudinarian habits of an old man in the seventies, as he was remembered and described to Suetonius, are here attributed to the youthful conqueror of thirty. We might as truthfully describe George III during the American War as blind and wearing a black skull cap. Some other mistakes are surprising. On p. 185, we read that Alexander IV was murdered "soon after his father's death," yet he survived thirteen years. On p. 258, the daughter of Sextus Pompey is described as "marrying Marcellus, the son of Octavian," whereas she was betrothed to Marcellus, the infant son of Octavia. On p. 353, the isthmus of Suez is described as 35 instead of over 90 miles across. Misprints occur in Mytelene, Systra, Ptolomies, and Ant/ony, which have escaped the proof readers named in the preface.

It would require more accuracy than we have observed to give us confidence in the flow of assertions which carry on the narrative. Akhenaten is said to have

been epileptic (p. 141) of which no evidence is known; and on almost every page "must have been," "must have come," or "must have realised," do duty for connective facts that are missing. It is hard to forgive the cynical degradation of the story of Arria, of which Lecky rightly says "her death was perhaps the most majestic in antiquity"; it is here said to be a light matter, Arria "coolly handed the weapon" to Paetus, her exclamation is wrongly quoted as if Paetus was going to hurt her, and it is spoilt in translation. The author might qualify for managing the affairs of Cleopatra as major-domo or vizier in Amenti, rather than in expounding her life and policy that is past. Far more would we wish to see the solid stores of information that Mr. Weigall has garnered during his strenuous work as Inspector in Egypt; more volumes such as his on the monuments of Nubia would be most welcome, and build a permanent place for his reputation in Egyptology.

Ritual of the Mystery of the Judgment of the Soul.—By M. W. BLACKDEN. 8vo, 36 pp., 1 plate. 5s. (Quaritch.)

The confused mass of documents of various ages and sources, which are commonly grouped as the Book of the Dead, form the greatest task that criticism has yet to handle. The restoration of the early texts is the first necessity, and no one has yet attempted to connect the scattered material. The assigning of relative periods to the various portions might give generations of critics a fighting ground. Some parts are of so plainly a question-and-answer construction that it is natural to suppose they may have been actually recited, and not only be for a guide book to the future world. In this work Mr. Blackden has boldly re-arranged some parts so as to frame a usable ritual. The question is how far this is justified: certainly the arrangement has no kind of proof for its plan; how far does it justify itself by internal evidence?

The system of this arrangement is as follows. Chapter 125 is compiled in portions from three sources (Ani, Nu, and Nebseni); in it are inserted at different places Chapter 30B of Ani, later the remainder of 30B from Nebseni, together with part of the Introduction. At the end is the rest of the Introduction, and part of the First Chapter. Now we do not know how early the chapters were arranged in the order in which we number them; but there seems no evidence that any such patchwork as this was the original connection of the documents. As a suggestion of the author's appreciation of the possibilities of a ritual arrangement it may stand; but if we wish to reach the historical development very different criteria are required.

NOTES AND NEWS.

THE terrible disaster to civilisation is stopping research in every direction. Excavations both in Egypt and in Mesopotamia are at a standstill. Not only English but American work is arrested. Dr. Lythgoe and Mr. Mace are not trying to reach Egypt this winter. Prof. Whittemore is actively supplying necessities to the French Medical Corps at the front. The British School of Archaeology, and also the Exploration Fund, are both waiting till a safer situation is reached.

Mr. Engelbach is in the Quartermaster's Department, behind the British lines.

Of our former workers, Mr. K. T. Frost fell in action in the beginning of the war; of course no details are known. Mr. Angelo Hayter is now interpreter to the camp of German prisoners of war at Llansannan, Abergele, North Wales. Mr. North is in training in the East Surrey Regiment. Our other friends are continuing in their training as reported in our last Journal.

Recognising that most of the subscribers to the British School will feel the present emergencies to be the urgent call, our Committee has decided to ask all the subscribers who wish to help, to contribute through our Hon. Sec. to the Officers' Families Fund. This Fund, established in the South African War, has experienced management, personal care and watchfulness to meet all cases, and no waste on offices and staff; as one of the most admirable of such auxiliaries to our afflicted people, we hope it will have full support.

Meanwhile let us keep our Journal going, as that is so slight a cost that it need not impair any other good work. The present number deals with European relations of Egypt specially; the next will give entirely new material on the palaeolithic age in Egypt and its relation to the glacial periods in Europe.

THE EGYPTIAN RESEARCH STUDENTS' ASSOCIATION.

SOME of the branches are in full working order this winter, and bravely continuing their Monthly Meetings. Others are suspending their activities for the present, but perhaps we all need to have our attention turned for a brief hour to some subject other than that which absorbs us all, and I commend the resumption of meetings to the branches which have flagged. Knitting can be pursued by all the members except the lecturer, so the meetings need not mean waste of time.

LONDON. Hon. Sec., Mrs. Sefton-Jones, temp. address, c/o Edwards Library, University College, Gower Street, W.C. —Meetings, monthly, at 8 p.m., lecture, 8.30 p.m. Oct. 29, at University College, Prof. Flinders Petrie, on "The Use of Metals in Egypt." Nov. 5 (by kind invitation of Mrs. Purdon), paper on "The Flint Age in Egypt," by Prof. Flinders Petrie, read by H. F. P. Dec. 10 by kind invitation of Mrs. P. Bigland, Mrs. Sefton-Jones, on "The Bogomils."

GLASGOW. (Hon. Sec. *pro tem.*, Miss D. Allan, 15, Woodside Terrace.) —Meetings, open to public, at University, 8.30 p.m. Dec. 7, Prof. Milligan, on "Thousand Years on the Nile." Feb. 15, Prof. Gregory, on "History of the Climate of Egypt."

HASTINGS. (Mrs. Russell Morris, Quarry Hill Lodge, St. Leonards.) —Major Davenport, on "Ancient Egyptian Jewellery." Dr. Spanton, on "The Egyptian Water Lily." Rev. J. D. Gray, on "Neolithic Man." Mrs. Court, on "Sign Language."

ROSS-ON-WYE. (Mrs. Marshall, Gayton Hall.) —Oct. 21, 3.15 p.m. Mrs. Cobbold, subject, Schedule F. Nov. 18, 3.15 p.m. Mrs. Schomberg, subject, Schedule G. A small lending library on Egyptian and Ancient History, free for members' use, is established in Ross.

HILDA FLINDERS PETRIE.

THE PORTRAITS.

AMONG the few of the great works of early art that have survived, the wooden steles of Ra-hesy are justly celebrated. Some of them have been frequently published, and can be easily obtained in photographs. The one here given has remained practically unknown until the recent publication by Mr. Quibell from which we copy it. In the other steles we see a fiercely active figure, or one of hard determination. The present figure is apparently older, and with a more suave subtilty about the expression. How the early art could realise the diplomatic cunning of age is familiar to us in the primitive king of Abydos, so astonishingly rendered in ivory. Here we see much the same character, of refined caution and reserve, which would well befit an ambassador or an archbishop. The titles read in four vertical columns. Many of them are still unintelligible to us, but we can read of his being chief of Buto, prophet of Horus of Edfu at Buto, leader of the march, and architect.

The second head is that of the small figure at the side of the copper statue of Pepy I. Some have thought that it represents his *ka*, but the *ka* was of the same age as the person; this probably is the son of Pepy, afterwards king Merenra. The two figures were found, taken to pieces and packed one inside another, in a pit in the temple of Hierakonpolis. Mr. Quibell, who found them, states that the smaller figure was in three pieces, packed inside the larger. Yet the figures were made by hammering sheets of copper, and attaching them by copper nails, apparently to a wooden core. If there were such a core it is difficult to see how the pieces could be put one in another; and certainly the metal had not been removed from a wooden core, or it would have been strained open and bent. The rows of nails at the junction of the beaten plates are evident, and certainly there must have been a solid mass to form the top and back of the head, and the waist of the larger figure, which parts are not executed in copper. The wooden core—as in the royal statues in Westminster Abbey—seems necessary for such a method of work, with nailed sheets of metal; yet it is very difficult to see how the pieces could have been placed one inside the other when the figures were taken down and dismantled. Had the wood been burnt out, the condition of the metal, and the white limestone eye of the statue, would have shown the effect of heat.

What we must admire as a masterpiece of technical and artistic skill is the hammering out of such a portrait head in beaten copper. The life-like vigour of the head could not have been exceeded in the most facile material, and it shows that in metal working, as in masonry, the Pyramid age had reached a perfection that has never been exceeded. The face and neck are worked in one piece; the hair was made separately, and then the two parts joined. The head is closely the size of the photograph here, the whole figure being two feet high. The thickness of the metal in the limbs is $\frac{1}{12}$ th of an inch. Though the hands of the figures would be the most difficult part to work by beating, yet on examination there was no evidence that they were cast. The whole of the figures was wrought by the hammer. As one of the supreme pieces of metal working we give it here in the history of the metals in Egypt.



STELE OF RA-HESY. IIIrd DYNASTY.

WOOD.

SAQQAREH.

CAIRO MUSEUM.



BUST OF STATUETTE OF PRINCE MERENRA. VIth DYNASTY.
COPPER. HIERAKONPOLIS. CAIRO MUSEUM.



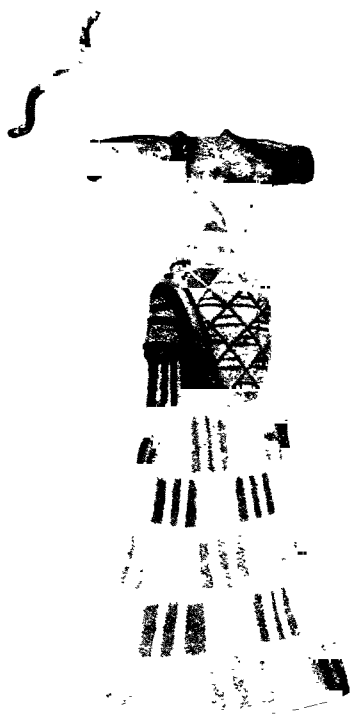
IVORY AND GOLD CRETAN STATUETTE, BOSTON MUSEUM.

ANCIENT EGYPT.

A CRETAN STATUETTE.

WE are enabled by the kindness of the Secretary of the Museum, Mr. B. J. Gilman, to present to our readers some pictures of the remarkable statuette which is now in the Art Museum at Boston, and was published in the Museum *Bulletin* for December, 1914. Beyond its presentation to the Museum, nothing is recorded as to its history. See the Frontispiece and Portraits at end.

The statuette is six and a half inches high, and is made of ivory with gold ornaments and details. The body is in two pieces, the join partly covered by the second flounce and its gold band; the arms were also made in separate pieces; the right arm, and the portion of the snake twisted round it, are a restoration, as is also the lower part of the dress on the right side



COLOURED FAIENCE FIGURE, KNOSSOS.
HOLDING SNAKES.



WOODEN FIGURE, THEBES.
HOLDING SNAKES.

The resemblance of the figure to the famous Snake Goddess and her votaries, found by Sir Arthur Evans at Knossos, is obvious at first sight, and it cannot be doubted that we have before us a product of Cretan art. But the style of the figure, both in face and hands, is extraordinary, and differs in artistic character

from any representations of the human form hitherto found in Crete. The head, in particular, is quite unlike anything known to us in early Aegean or in classical art; it recalls rather the sculptures of Gothic cathedrals of the thirteenth century, such as Rheims and Bamberg, but that it looks more modern. Under these conditions the question of the genuineness of so remarkable a work must occur at first to any critic. But the possibility of modern forgery appears to be precluded by the materials and their condition; and there were no opportunities for any such imitations of Minoan art between the destruction of the palace at Knossos and its modern disinterment.

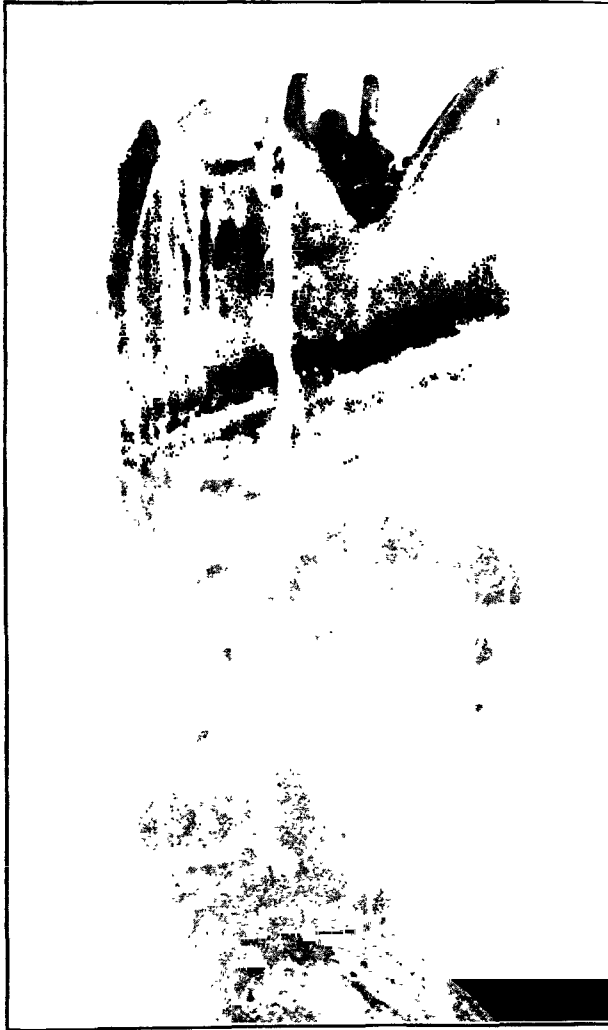
In pose, the statuette resembles the Snake Goddess of Knossos; but this resemblance only accentuates the essential difference between the two. The Knossian figure is stiff and conventional; the new ivory statuette is fresh and full of life, in the sway of the skirt and the poise of the waist, as she throws back her shoulders to balance the extended snakes. For the subject, beside the Cretan goddess, we may compare the figure, of uncertain origin, found in Egypt, and published in Quibell, *Ramesseum*, pl. III, 12. This figure, however, has no artistic connection with the Cretan. The two Cretan "votaries" brandish their snakes in the air.

The dress is of the well-known Cretan type. The flounced skirt resembles that of the Knossian "votaries," except that each flounce is brought down to a point in front, as in the Mycenaean seal-ring and other intaglios. Each flounce is bordered with edges of gold, ornamented with zig-zag or "figure-of-eight" designs. The gold girdle is of the hollow Cretan pattern. The surface is so much damaged about the shoulders that it is not easy to make out the jacket; doubtless it, as well as the skirt, was indicated in colour. The gold-bordered ends of the short sleeves still remain; the rest of the jacket was, doubtless, as in other Cretan figures, of the "zouave" or "eton" type, leaving the breasts bare, and fastened down the front below them by a broad gold clasp. The nipples are indicated by gold pins; and there are holes on the neck for the attachment of a necklace, and on the upper part of the skirt to attach gold pendants from the girdle, or perhaps, as suggested in the *Bulletin*, a gold apron.

The headdress is remarkable: it consists of a high crown, which rises at the front, at the back, and on each side into a high curve, pierced near its apex by a round hole. These holes may have served to fasten a gold ornament or plating; but from their size and shape they suggest a decorative purpose. Round the edge of the hair, above the forehead, are holes for the attachment of a gold wreath or diadem, or possibly of extra curls. The most remarkable piece of work in the whole is the face, with its life-like expression and its delicately modelled features. The eye is actually sunk into its proper depth below the brow—a method of treatment practically unknown to ancient art of any kind before the fourth century B.C. One has only to look at the staring eyes, flush with the face, in any early sculpture to see the difference. And not only does the eye recede from the brow, but the lower eyelid is set in from the upper, and the resultant shadowing of the eye socket adds greatly to the expression. The left hand also is beautifully and delicately modelled, with none of the exaggeration and distortion of the thumb which is common in Cretan as in Mesopotamian art. The snakes held in the hands are bent together from thin plates of gold.

The gold and ivory statuette shows us for the first time a treatment of the human figure in Cretan art which is comparable in artistic excellence with the admirable studies of animals, which are of Cretan or Mycenaean origin. If

possible, it would be desirable to fix the period of so remarkable a work in the development of Cretan art. But here unfortunately the data fail us ; so exceptional a work does not easily lend itself to comparison, and may be a freak of individual genius. The inferior style of the faience figures from Knossos, which date from the first period of the later palace, does not necessarily imply a later date, though they look like a degradation from such work as we see in this statuette. If it marks the high-water mark of Cretan sculpture, it might be placed not far from the high-water mark of Cretan pottery, and so go back to the Middle Minoan age ; but such conjectures must remain for the present uncertain.

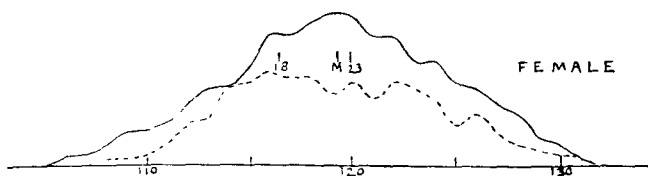
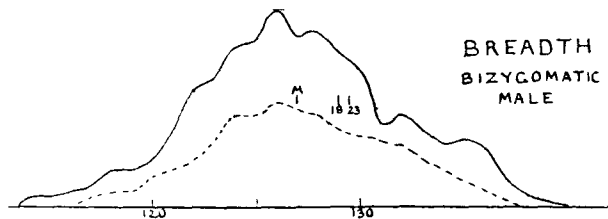
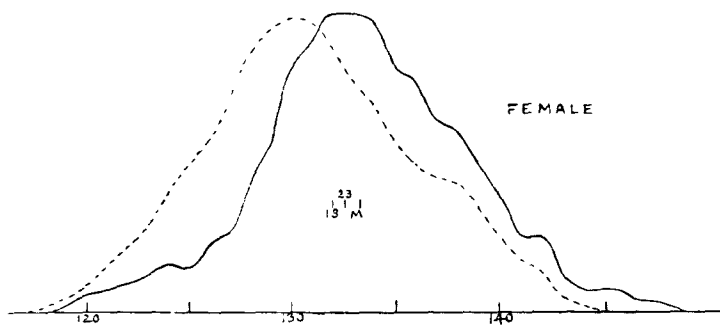
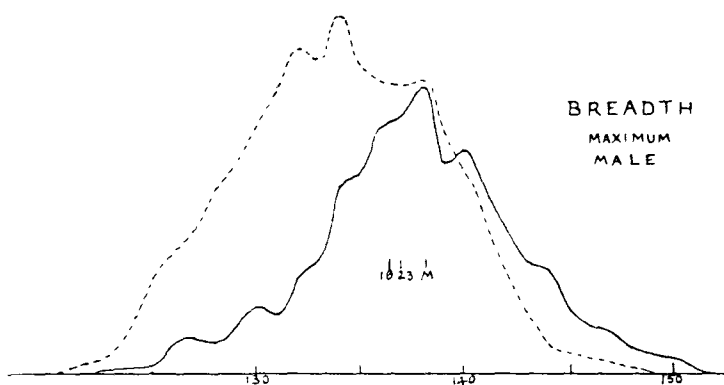
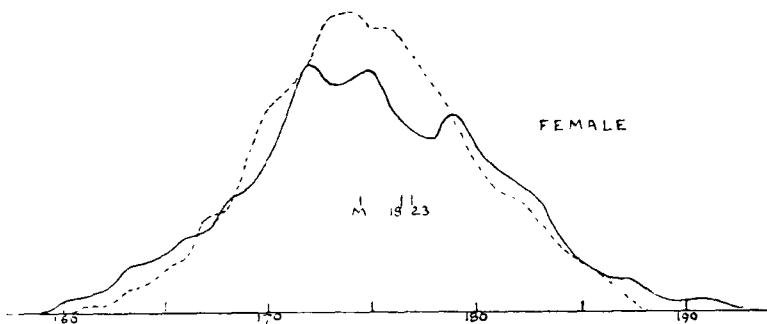
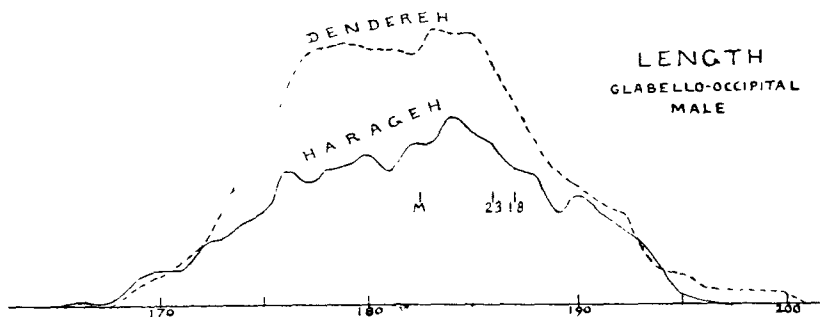


HEAD OF THE IVORY AND GOLD STATUETTE.
THRICE ACTUAL SIZE.

The new discovery emphasises more than ever the contrast between the art of Crete and that of historic Hellas. The comparison made at the beginning of this article was not altogether fortuitous, for such Cretan work is really separated by a greater gap from the classical perfection of Greece than from the exuberant but undisciplined imagination of mediaeval or modern times.

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ERNEST A. GARDNER.

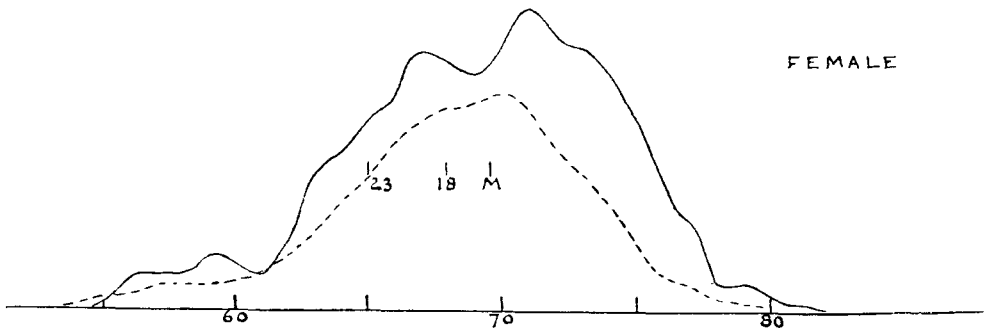
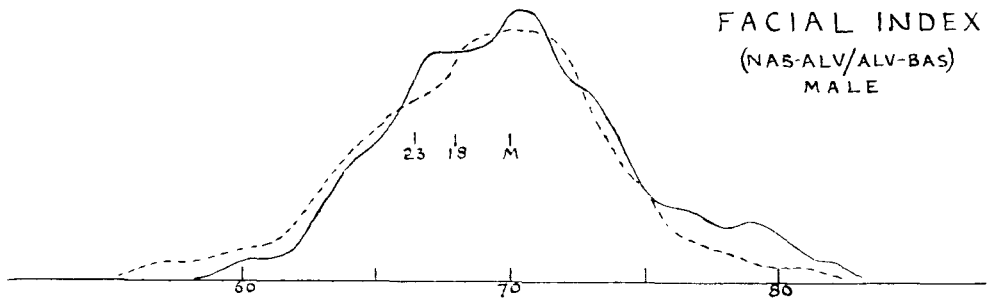
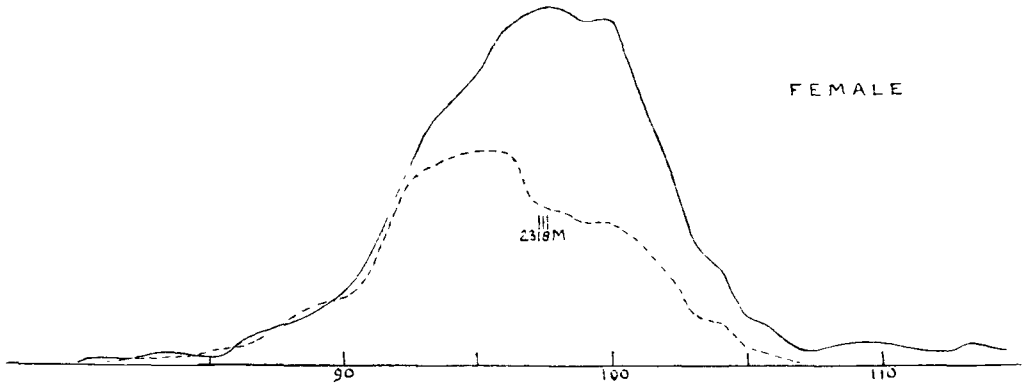
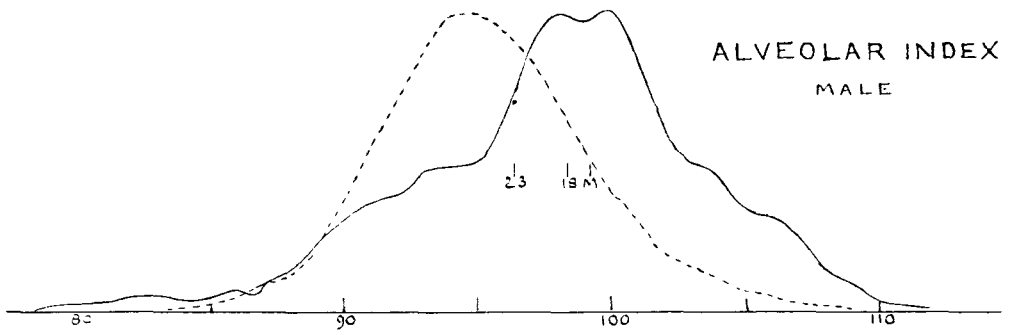


SKULLS OF THE XIIth DYNASTY.

IN the course of the cemetery excavations at Harageh and Lahun last year, a large number of skulls were found, and I had joined the excavating camps in order to carry out the standard routine of measurements on the spot. Many skulls will not bear the risks of transit, and immediate measurements are free from any subsequent distortion, and therefore the more satisfactory. In all, there were measured 26 skulls before the XIIth dynasty—too few to give results by themselves; 113 male and 132 female skulls of the XIIth dynasty, beside 38 of uncertain sex; 16 male and 17 female skulls of the XVIIIth-XXth dynasties; 20 male and 17 female skulls of the XXIIIrd dynasty, besides a few of uncertain sex. The detailed measurements of all these will appear in the volume on Harageh, by Mr. Engelbach, which we cannot hope to see prepared till after the war. Meanwhile, the general results may be seen in the curves of distribution in the present account.

The following are the measurements taken in accordance with the International agreements for the unification of Craniometric and Cephalometric measurements:—

1. *Length*, maximum, antero-posterior; from Broca's glabella to the point on the supra-occipital part of the occipital bone.
2. *Breadth*, maximum; in a horizontal plane above the supra-mastoid crests.
3. *Breadth*, minimum, frontal; shortest horizontal diameter between the temporal crests on the frontal bone.
4. *Bizygomatic breadth*; maximum diameter between the external aspects of the two zygomatic arches.
5. *Height*, basi-bregmatic; between the basion (median point on anterior margin of foramen magnum), and bregma (median point of coronal suture).
6. *Naso-basilar* diameter; between the nasion and the basion.
7. *Alveo-basilar* diameter; between the prothion (mid point of anterior border of the alveolar arcade) and the basion.
8. *Naso-alveolar* diameter; between the nasion and the lowest point on the alveolar arcade between the two upper median incisor teeth.
9. *Naso-mental* diameter; between the nasion and the lower border of the mandible in the median plane.
10. *Orbital width*; between the dacryon (point of confluence of the sutures formed between the lachrymal and frontal bones, and the nasal process of the superior maxilla) and the outer margin of the orbital aperture, where it is crossed by a line drawn from the dacryon parallel to the upper and lower orbital margins.
11. *Orbital height*; between the upper and lower orbital margins, avoiding any notches that may be present; maximum vertical diameter perpendicular to the line of orbital width.
12. *Nasal height*; between the nasion, and below to the point in the median sagittal plane of the skull, on the line tangential to the two notches of the pyriform aperture of the nose. When the margins of these notches sink into grooves, then the level of the nasal floor has been taken.



13. *Nasal width* ; maximum transverse diameter between the lateral margin of the apertura pyriformis nasi.
 14. *Palatine vault*, width ; at the level of the second molar teeth measured internally.

15. *Palatine vault*, length ; between, in front, the point in a middle line and on a line tangential to the posterior surfaces of the median incisor teeth, and behind, the point in the middle line and in a line tangential to the deepest parts of the notches on the posterior palatine border.
16. *Circumference horizontal*, maximum ; measured with a steel tape.
17. *Bigonial breadth* ; between angles of the jaw on the external surfaces.
18. *Symphysial height*, in median plane ; between highest point of alveolar border, and the inferior margin of the symphysis.
19. *Ascending ramus*, right ; between lowest part of notch to lower margin of jaw.

WALTER AMSDEN.

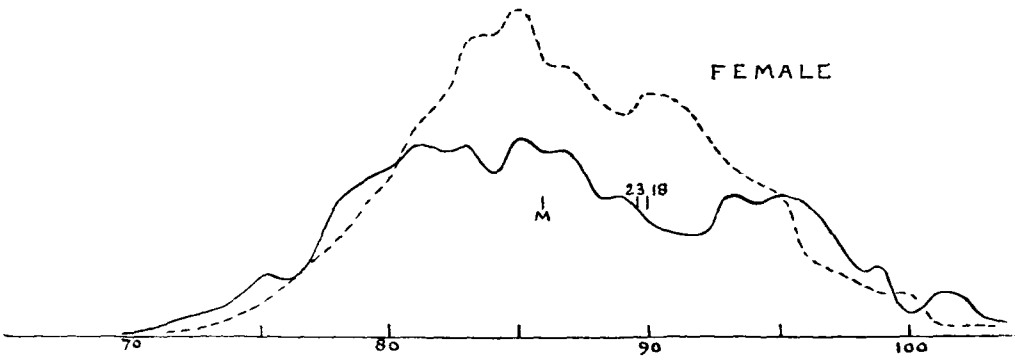
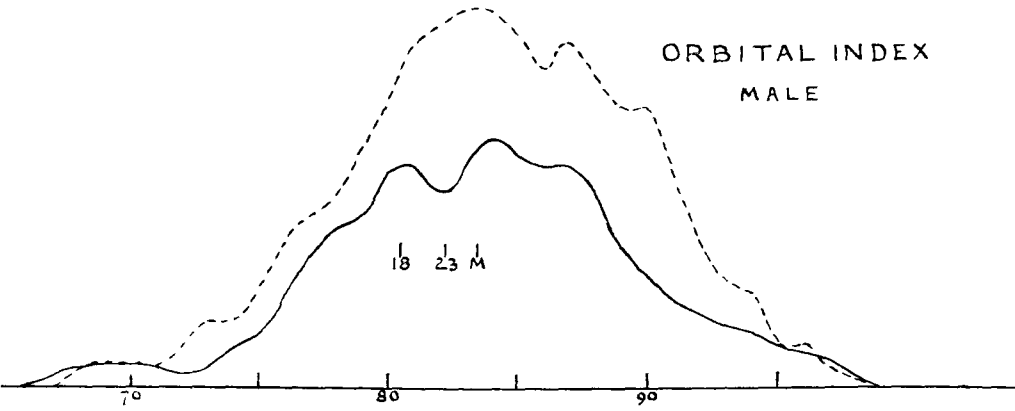
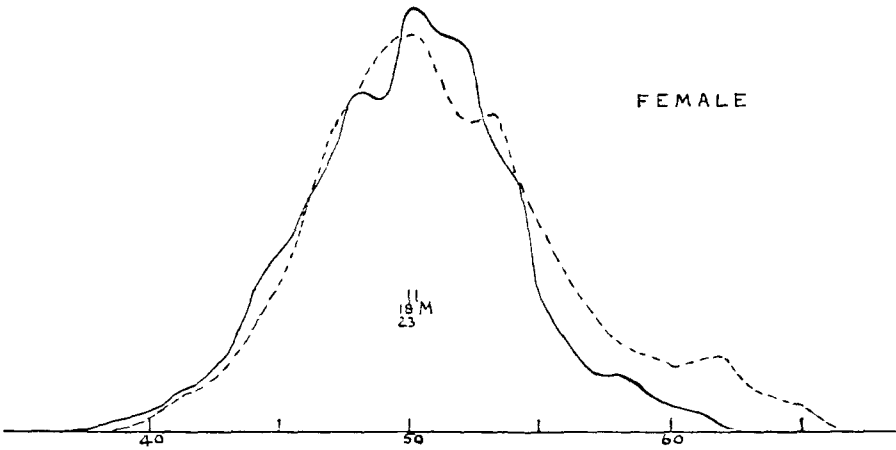
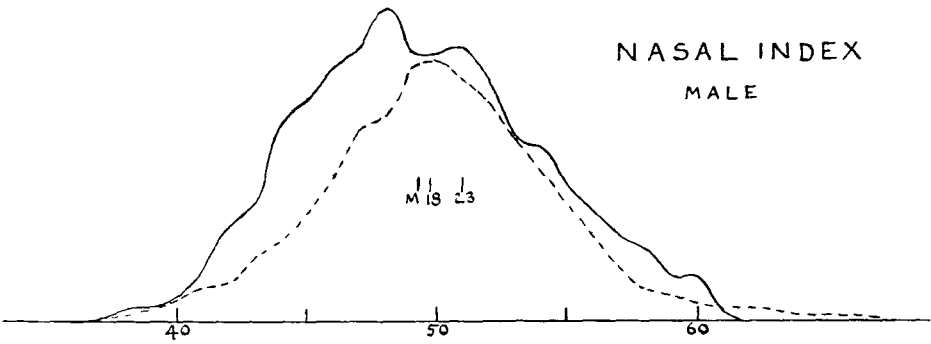
Unfortunately, the military duties of Dr. Amsden, as a Medical Officer, have prevented his reaping the harvest of results from the mass of about 6,000 measurements which he took and tabulated. Some brief notes are therefore added here to explain the three pages of diagrams, which show the more important points. To form these curves, the total number of examples in each group of five millimetres has been taken, at steps of every millimetre, in accordance with the system followed for the Tarkhan skulls. The length and two breadths are shown as directly measured ; but for the other dimensions, indices have been extracted, as the only other series of the same age—from Denderch—has only been published by indices, and this is therefore the only way to compare results of the two sites.

In all these diagrams the male and female curves are separate. The full line is the result of the present work ; the letter M shows the median point of that curve. The points 18 and 23 are the medians of the groups of the XVIIIth and XXIIIrd dynasties from the same district. The dotted curve is that of the XIIth dynasty skulls from Denderch. The interest in comparing these is to see whether the foreign invasions between the VIth and XIIth dynasties had left any distinct mark on the more northern people of Lahun compared with the people 260 miles further up the valley at Denderch. Some day we may hope to see put together a complete view of the changes in the Egyptians in all periods and districts.

On comparing results, it is seen that, in length, the XIIth dynasty was the age of the shortest skulls, equally at Riqqeh and Denderch. In the 1st dynasty they were even longer than in the XVIIIth, male and female alike. In breadth there was very little difference, the 1st dynasty being like the XVIIIth. So far from any local influence appearing, the northern and southern are alike in length, and differ from all other periods, in the north, but continue nearly the same at Denderch in Roman times. There is no trace of an invading influence being greater in the north than in the south. The Bizygomatic breadth similarly shows the unity of north and south, and differences in later periods.

In the Alveolar index the south (dotted) is more upright in profile than the north, orthognathic south, mesognathic north. The Facial index (height of faces) north and south agree in a tall face, later periods showing a shorter face. In the proportions of the nose there is no notable variation. The eye also is alike in north and south, but in later times the men's eyes became longer and the women's eyes rounder. Altogether the evidence is that the Egyptian people were unified in Middle and Upper Egypt in the Middle Kingdom age, but they were clearly different in both earlier and later periods.

W. M. F. PETRIE.



ALEXANDRIAN ARCHAEOLOGY.

DR. BRECCIA, the Director of the Alexandria Museum, has issued his report of the antiquities added to its collections during 1913. This year was a special one because, with the object of augmenting the relics of Graeco-Roman times, illustrating the most flourishing period of Alexandria's prosperity, the municipality defrayed the cost of excavations upon the site of the ancient town of Theadelphia, in the Fayoum. This place was selected because, in 1912, the fellahin had there disinterred the doorway and pylons of a temple dedicated to the Crocodile-god Pnepheros. This was evidently the edifice for which a long Greek inscription, published by M. Lefebvre in 1908, set forth the grant to it of the privilege of Asylum.

The temple was buried beneath great accumulations of sand, and was of considerable size, but Dr. Breccia has completely uncovered it, and in so doing made some remarkable discoveries. It was constructed of crude bricks and limestone, and oriented to the north.

Upon a large stone above the entrance doorway an important inscription, dated in the thirty-fourth year of Ptolemy Euergetes, *i.e.*, 137 B.C., stated that the pylons and stone vestibule had been dedicated to the deity Pnepheros, in honour of King Ptolemy and his consort Cleopatra and their children, by a certain Agathodorus of Alexandria and his wife Isidora.

Two crouching lions, sculptured each from a single block, guarded the entrance which led into a large court, having many doorways at the sides leading into various chambers. In several places in the walls were rectangular niches, and in these had been painted frescoes, almost all destroyed. One, however, shows a procession of Pnepheros. He appears as a mummified crocodile wearing a crown on his head, and is placed on a sort of barrow, or litter. The priests march between others bearing palms and flowers, and some walk in front of the bearers.

The first court has an exit into a smaller one, and on each side of this are stone sphinxes. Upon one side is a column, still showing the brackets for supporting torches, to illuminate functions held at night. This column bears an interesting inscription stating that it was erected in honour of Ptolemy (X) and Cleopatra (III) by the guild of the Chenoboskoi, or breeders of the waterfowl, which doubtless abounded in Lake Moeris and the many canals then existing in the Fayoum. Another pylon gives access to a still smaller court, and in it fortunately was found the litter for carrying the deity. It was in perfect preservation; also the platform in sculptured wood used for its stand, and a fine crocodile mummy. Upon one of the pylons, which had been covered with stucco, a scene is painted depicting a military officer standing beside his charger. He is represented with the full army equipment of a warrior, wearing a cuirass, with Gorgoneion ornament, and a rich mantle. One hand holds a spear, and the other reaches forward to offer incense towards a small altar. The head bears a crown, and above his horse a winged Victory flies, as if to present another coronet to the soldier. A most valuable detail is that the head is surrounded by a radiated

nimbus, identical with those depicted around the heads of apostles and saints by primitive Christian artists. This discovery tends to show that the origin of this symbol, like many others of early Christian iconography, may be traced to Egypt. Beside the warrior is a text giving his name—Hero Sonbattos.

Upon the other pylon a mounted soldier is painted, but the figure is much damaged; he also has the same style of nimbus, a tree with a serpent coiled around it is visible, and a marching soldier bearing an ensign, like a double axe. Beside him appears a mummified crocodile ornamented with the insignia of Pnepheros.

From the third court Dr. Breccia made his way into the deity's chapel. The walls of wood and brick had been decorated with figures of human bodies with animals' heads. Another room was almost filled by an altar, which has been removed to Alexandria. The description of it is too long for repetition here, and awaits the assistance of a photographic representation. It will be a most important relic for illustrating the pagan cult of Pnepheros as carried on from about 140 B.C. to A.D. 170, the period for which inscriptions vouch for the continuance of worship at this temple at Theadelphia.

Turned face downwards among the ruins of a neighbouring house, Dr. Breccia found a Greek inscription of as many as fifty-three lines. It is dated in the twelfth year of Ptolemy XIII, Neos Dionysus, and his queen, Cleopatra Tryphena, about 69 B.C. It contains a decree awarding the right of Asylum to the temples of Hercules and of Isis at Theadelphia. Its utilisation for the floor of a house precludes the hope that its resting place is the site of either of the shrines its text concerns, but no doubt proper search would succeed in finding them at Theadelphia.

This inscription, with the exception of the longer Greek versions of the trilingual records of the Rosetta Stone, and Decree of Canopus, is probably the longest Greek text yet found in Egypt.

The report gives a summary of discoveries at Alexandria, chiefly those at the long three-galleried catacombs found in 1912 near the Ras et-Tin Palace. The mummies therein were much deteriorated by moisture, but many of the face and breast masks, with most interesting decorations, have been rescued from further destruction. The burials date from the commencement of our era.

JOSEPH OFFORD.

THE STONE AGE IN EGYPT.

VARIOUS isolated papers have appeared from time to time dealing with wrought flints found in Egypt at one locality or another, without placing the material in direct connection with that of other periods or other countries. It seems time now to attempt some co-ordination, as lately the subject has been hindered by our not being able to recognise what is critical and needing observation among the vast quantity of material available. We cannot attempt in a journal to deal exhaustively with even one branch of the subject; our object rather must be to give an outline showing the relation of the various parts, and dealing only with obvious types. For a full and definitive study of any of the periods, the first requisite is a regular search for evidence at first hand in Egypt. That has never been undertaken, except for a few weeks of surface collecting by Mr. Montague Porch, in which I specially requested him to record the level (by aneroid over the Nile plain) and the locality of every specimen. Stratigraphical search in the gravels is urgently needed to obtain material connected with the physical changes of the country.

Here we shall only notice the most definite types, especially those related to the European types. There are also a great number of irregular forms, which might be grouped into classes; but it would be much more satisfactory to do that after some collecting has been done from definite horizons of the gravels. The material here dealt with is that which I have collected at University College; after weeding out duplicates, that comprises about 300 selected palaeoliths, 300 Solutrean from the Fayum (chosen from many thousands), 100 from early settlements, and 300 from the prehistoric graves with relative dating.

Flint working—like each of the arts—began with archaic ages which blossomed into the grand style of the magnificent, massive, symmetrical forms of the Chellean (Fig. 10A) and Acheulean periods.¹ Nothing made since has ever equalled the satisfying magnificence of these types, with their bold large flaking, producing



10A EARLY CHELLEAN PICK.

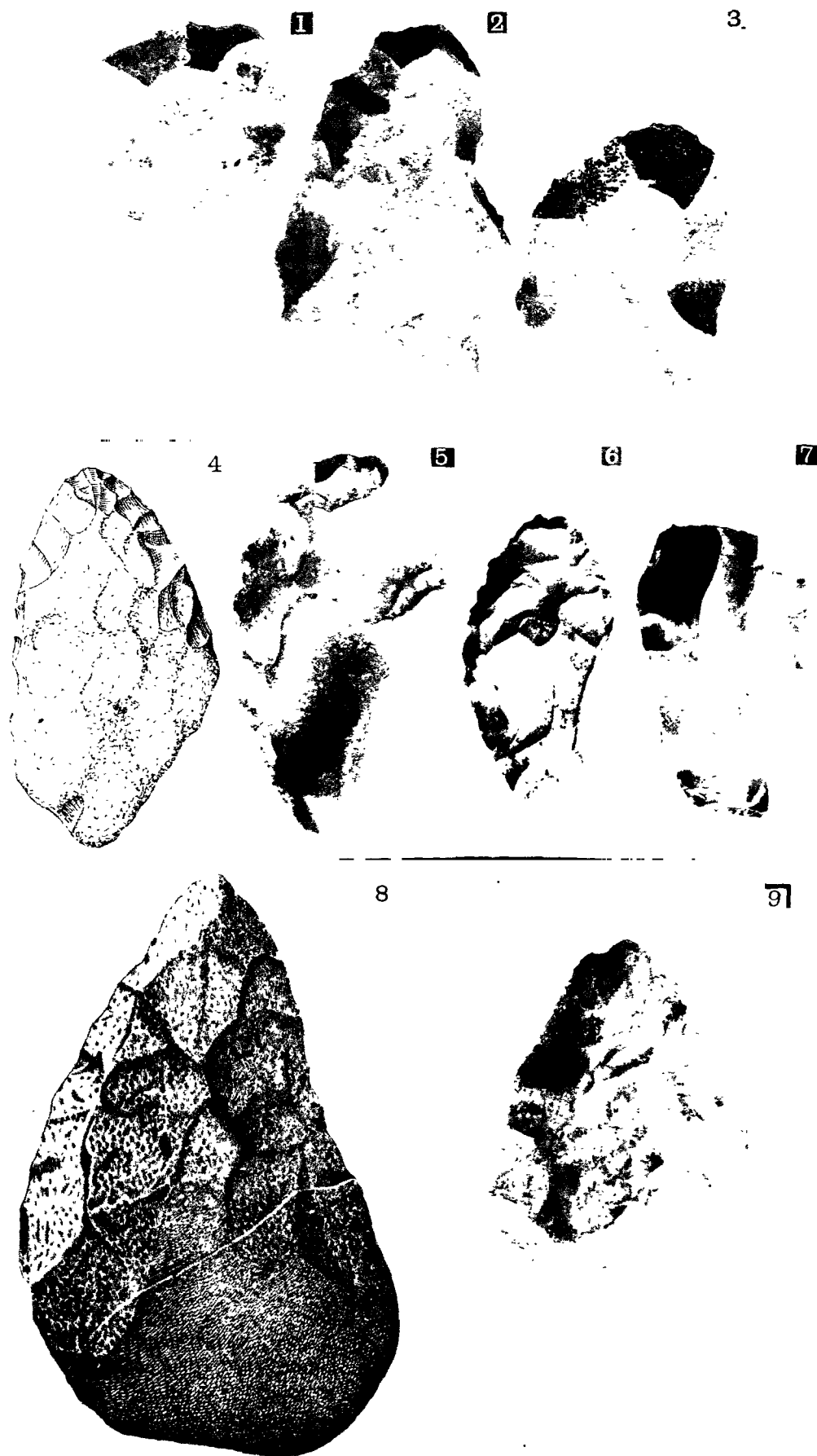
¹ As this article is intended for readers not familiar with recent geology, the series of terms for periods of work are here added. *Early*, Mesvinian, Strepyan, Chellean, Acheulean, Mousterian, Aurignacian, Solutrean, Magdalenian, *Late*.

real works of art. The miserable poverty and rudeness of the Mousterian and Aurignacian ages reflect the overthrow which European man suffered in the third Glacial period, when life was a struggle in chilly islands isolated by high sea levels. The only later age of supreme work is that bordering on the use of metals, when the mechanical art of ripple-flaking rose to its highest perfection in Egypt and in Denmark. But—marvellous as that was—it never reached the supreme quality of the early work in producing perfect forms by large handling, like a detailed picture produced by the skilful use of a large brush.

A broad distinction must always be observed between the characteristics produced by mere necessity, and those due to aesthetic feeling—the utility types and the artistic types. Though they merge together, yet they need to be distinguished as far as possible, because they separate between forms which may be expected to recur, and types which may be expected to be distinctive of a period. Mere necessity will produce similar results in many cases; the Mousterian and Aurignacian edge-chipping, for instance, is much of it like that produced by a habit of scraping different materials. On now using old flakes with clean edges to scrape bone, leather, hard wood, pottery, etc., chipped edges are produced exactly like many ancient examples. Such an edge may be distinctive of date in one country, because certain materials may have been usual at one period. But such details are useless in comparison between countries, as materials may be usual in one land at one time, in another land at another time. So in Egypt this utility form of chipping occurs commonly in the prehistoric graves which are certainly after the Solutrean period.

The case is quite different when we touch on artistic taste. The fine regular forms do not recur in different ages of any one country; and there was nothing to lead man to re-adopt particular curves or styles which were no better than others for any practical purpose. In these cases we must give credit to style as a prime indication, to be accepted unless contradicted by definite evidence of stratification, or association with organisms. There might be a hesitation about types being the same in lands so far apart. But if we grant that a style might travel from hand to hand five miles in a year, it may travel all over a continent in a thousand years; and that is a mere fraction of the extent of period of any of the great styles of stone working.

For comparison with European types, the examples are here taken from the illustrations of the *Musée Préhistorique*, 1881, drawn by Prof. Adrien de Mortillet, whom I have to thank for most cordially allowing the use of them here. References are given with the letter M., and the number of the illustration. Other figures are from *Die Diluviale Vorzeit Deutschlands*, by R. R. Schmidt, 1912. For the use of these I could not ask the author's permission, owing to the present war; but as in the most original and important part of his work, there is the statement that reproduction or extracts are only permitted with statement of the source, it is hoped that with this acknowledgment the use of some twenty figures here for purpose of comparison, may not be thought objectionable. References are given with the letter S. and *Fig.* for text blocks, Roman numerals for plates. The specially German material of Schmidt is less comparable with Egyptian forms than is the French material given by him and Mortillet. The German types are generally much less finished, and the great Chellean stage so largely developed in Egypt does not appear at all in Central Europe. All objects and book illustrations here are reduced uniformly to half the size of the actual objects, excepting Nos. 21, 23 and 25, which are slightly more reduced.



1-3 MESVINIAN? 4, 5 STREPYAN? 8, 9 EARLY CHELLEAN.

In studying this subject we must first place the Egyptian examples side by side with the European, to see the similarity of form. Then, if no other facts disagree, we cannot do otherwise than assign the types in Egypt to the same general period as those types in Europe. This will give a provisional classification of most of the Egyptian examples, and a basis for future study to confirm or disprove the history thus suggested. Further may be stated here the evidences for alterations of sea level in Egypt, the possible relations to similar changes of level in Palestine, at Gibraltar, and in the west of Europe, and the implied connection of types of flint work with those changes in Egypt. Thus there will be a definite ground for future research in Egypt, showing what are the critical observations needed to define the facts more certainly. It is impossible to advance any subject without knowing whether each detail is merely a useless repetition of what is well known, or is valuable as a contradiction or corroboration of what is supposed.

It need hardly be said that the conditions in Egypt are very different from those in any European ground. The flints lost on the surface lie on the rocky desert plateau as they fell, not covered by any bed of humus. Whatever soil may have there supported vegetation during less dry periods has been completely denuded away by the arid blast. Hitherto this denuded plateau has been almost the only gathering ground for worked flints; very few sections have been searched, and none of the gravels have been dug through and the material examined.

Figs. 1-3.—The first three illustrations show a class of flint of the rudest type; naturally thin worn pebbles, half an inch to an inch thick, have been selected, and trimmed by striking flakes off from each edge, so leaving a jagged, wavy, cutting edge. So rude are these that they might belong to any age of degradation; and as they are all found about twenty feet over the plain on the low ground at Lahun, their source proves nothing. Fig. 1 is much water-worn, showing that it is older than the last high-water age, or pre-Aurignacian. Figs. 2 and 3 are quite sharp, but that need only imply that they were buried until recent times. As the style most nearly resembles the Mesvinian of Rutot (*see* S., Figs. 35, 37), these may provisionally be assigned to that late eolithic age.

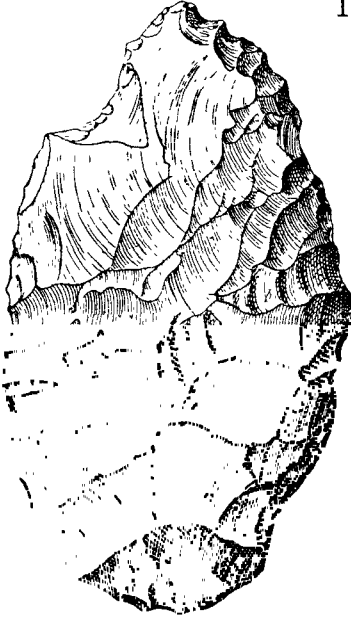
Figs. 5, 6, 7, are from a bed of gravel at the foot of the cliffs at Naqadeh, found undisturbed at 2, 3 and 5 feet down, respectively. This gravel is about 20 feet above the present Nile plain; and as the bed of the Nile has risen some 20 or 30 feet by deposits in civilised ages, this bed of gravel cannot be later than the high water of pre-Aurignacian times. The type of 5 is not unlike 4, which is the Strepyan type of Rutot (S., 39); a natural thin pebble chipped to a moderately even edge. But the amount of regularity of 6, and the long flakes of 7, show that the gravel is probably Mousterian; and No. 5 may be an older work, re-deposited in later times.

Fig. 9 is a partially formed implement of the Chellean type, the butt end being left in the natural pebble condition; it is closely parallel to European types, such as one from Toulouse, Fig. 8 (M., 42). This borders on the pre-Chellean type (as S., Fig 22), akin to Fig 5 above, in which the rounded natural surface is left where an edge is not needed. It seems as if this would be far more convenient to hold than an entirely chipped surface; it is therefore a question whether the chipping of the butt, as in the succeeding types, is not due to an artistic feeling, like that of later times when smooth-ground blades were subsequently ripple-flaked solely for the sake of appearance. It may be that the all-chipped butts are the

10



11



12



13



14



earliest known sacrifice of convenience to appearance. The example 9 is of brown flint, quite fresh and unaltered, without the slightest rounding. It was found at Nile level in the mouth of a small valley near El-Amrah, and must have been buried until recent times.

The regular types of Chellean work are given in 11 and 13 (S., Figs. 25, 24), comparable with 10, 12, 14 from Egypt. These are boldly worked with large flaking, which is exactly chosen so as to need but little chipping or trimming. No. 10 was found at Erment at 210 metres over plain, or about 940 feet above present sea level. No. 12 lay on a spur of the cliff between Denderah and Naqadeh, 800 feet over plain, or 1,030 feet above sea. No. 14 was found by Mr. Seton-Karr at a low level, at El-Ga'areh, S.E. of Denderah. The two above have the dark brown colouring of the plateau; the lower is a honey flint partly whitened. Similar types to the last were found, much water worn at a low level north of Naqadeh, and quite white and porous at Thebes.

The early Acheulean style, 15, 17, 19 (back of 17), is coarser, and seems to show a decay of the previous style (S., Fig. 29, xxvii, 1). It is closely paralleled by 16, 18 and 20. No. 16 is from the Valley of the King's Tombs at Thebes, at 240 metres over the plain, or 1,040 feet above sea. It is moderately water worn, showing that the sea has been above that level since it was made. The other examples, 18, 20, are from a class of similarly rude work, some partly water worn, which have been found in various low levels between Abydos and Thebes. They are not very distinctive; but their rolled condition shows that they are pre-Aurignacian, and they do not agree to any of the well-developed types, so it is most likely that they should go with the similar early Acheulean of Europe.

The regular Acheulean types of the massive ovoid 21, the pick with very large coarse flaking 23, and the badly dressed pick 25, are all paralleled in Egypt. These three types are assigned to the early middle and late Acheulean respectively (S., Figs. 27, 30, 32). Other authorities would space them further apart, putting 22 as late Chellean, and 25 as early Mousterian, and also put back 22 and 24 into the Chellean age. These figures are a tenth smaller than all the rest here, being 1 : 2.2 instead of 1 : 2. The heavy ovoid 22 is from Erment, at 200 metres over plain, or 900 feet over sea; and a larger and thicker one is from the Valley of the King's Tombs at Thebes. No. 24, from the low plain, 5 miles north of Naqadeh, is much water worn, yet it shows the very coarse large flaking like the European. No. 26 is feebly worked with poor flaking; it comes from a low level at Denderah.

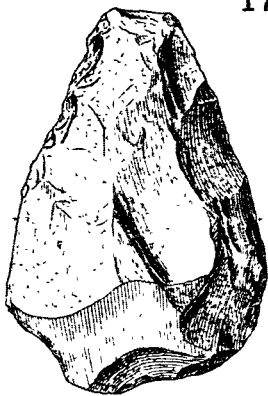
A very marked form of Acheulean period is the narrow pick 27 (M., 27); and this is even more marked in two Egyptian examples, 28 and 29, which have been discoloured in gravels, but not perceptibly water worn. The purpose of these was probably the same as that of the other great palaeoliths, for breaking up the soil in search of edible roots. Such is the only kind of work suited for the pointed pick (otherwise called "hand-axe," *coup-de-poing*, or *faustel*); and this narrower pick would be fit for a harder, more clayey, soil. The earliest great picks, like crowbars of flint, from the base of the Crag, would be exactly suited to earth-smashing; and the only position in which the hands can well grasp them is with the point toward the holder. To use the ordinary pick (hand-axe) for cutting wood is almost impossible; the edge would neither slice nor saw wood, and the pointed form would never allow of striking a blow at a branch, and cutting like an axe or adze. Fig. 30 we shall notice with the next page.



15



16



17



18



19



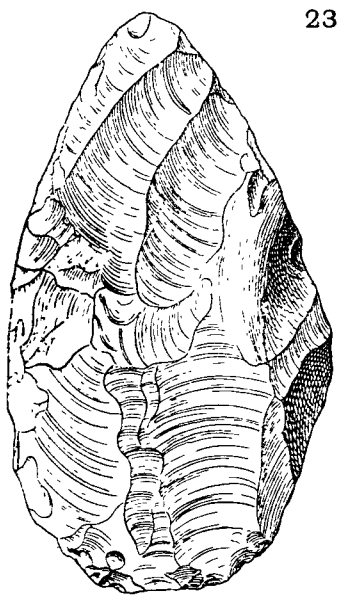
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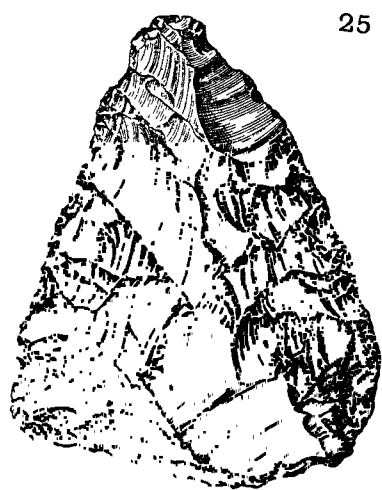
22



23



24



25



26

21, 22 EARLY—, 23, 24 MID—, 25, 26 LATE ACHEULEAN.



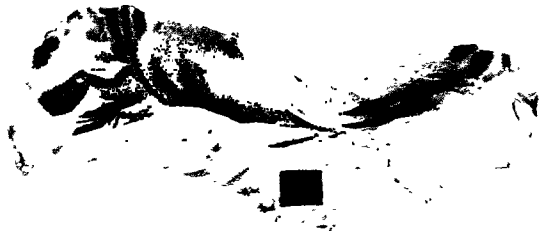
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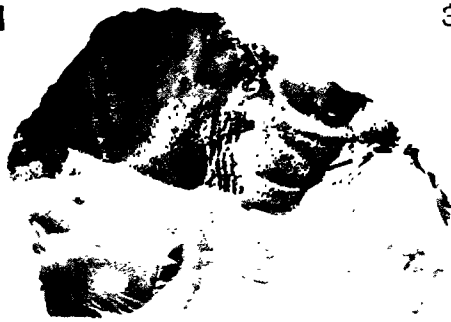
30



32



33



34

27-29 ACHEULEAN. 30 HOOF. 31, 32 LUNATE. 33, 34 DISC FLINTS.

31 and 32 are two lunate forms that are certainly early, from their condition. 31 is from the Valley of King's Tombs at 230 metres, or 1,000 feet over sea; it is deeply stained dark brown by exposure. 32 is of a beautiful fawn-coloured flint on the flat under side; on the upper side stained a deep brown, except where the white crust remains. These seem as if intended for scraping over wide curves, as in removing bark from trees. Narrower scrapers of well-defined form are found also of early period, as these (32 A, B) from Erment, found at 200 metres, or 900 feet over sea. They are stained a very deep brown by exposure. Their curves would be suited for scraping poles of 3 or 4 inches thickness.

33 and 34 are examples of a type which is commoner in Egypt than in Europe, where it belongs to late Acheulean times; it is also very usual in South

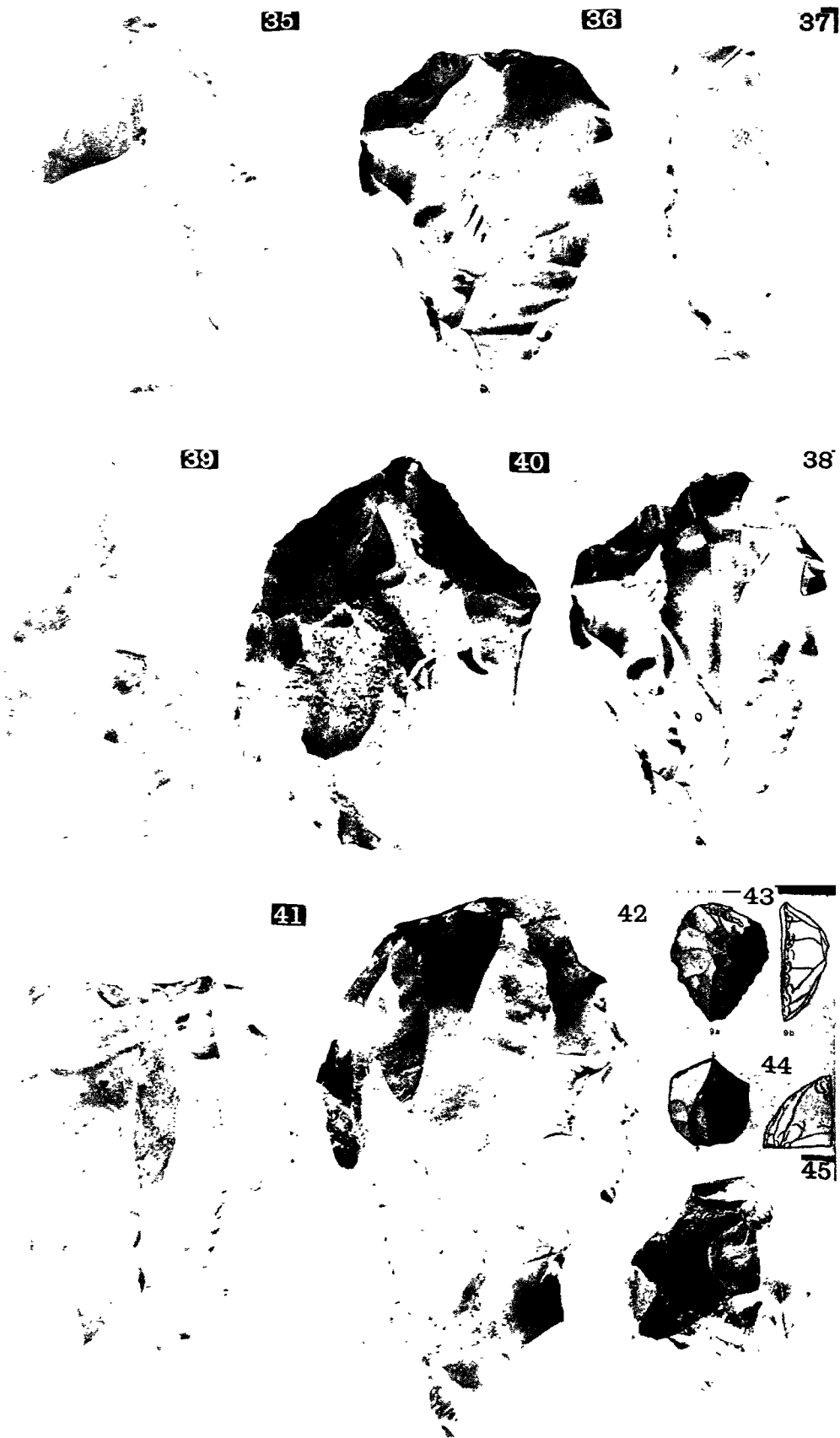
Africa, together with the flakes (as 35, 37, 39), the thin flat Chellean forms, and the small thick oval flints (54, 55), all of which are recognised by Mr. Mennell as being common in Africa. These disc flints in the best formed examples are equally sharp all round, and convex on both faces. It seems likely that they were used for hurling at animals, a purpose which may probably be the origin of the Greek *diskos* and modern quoits. They are found 1,500 feet up at Thebes (No. 33), and at various sites northward to Abydos.

The largest class of Egyptian flints is that of the flakes, as 35, 37, 39, which are found in great quantities on the high plateau. Another considerable class is that of the thick domed flints, as 30 and 45, which are usually deeper than half of the breadth. This type is called by the Egyptians *dufr el-homar*, "donkey's hoof,"



32 A, B, CONCAVE SCRAPERS.

and may well be termed the hoof type. No connection had been observed between the hoofs and the flakes until Mr. Reginald Smith showed me the Northfleet flints—large blocks trimmed around, in order to strike off a thin sharp-edged implement from the flat side. On examining the hoofs this did not seem at first to be a parallel case, as they do not show a single wide flake face. But on comparing the flakes with the hoofs the connection became evident. No. 36 is the flat side of a hoof (Thebes), 37 is a flake (Naqadeh) which is closely alike in form; on superposing them, in 38, it is seen how nearly the planes of the flake lie in line with the planes of the hoof. Similarly on placing flakes upon the largest flat face of the hoof in Nos. 40, 41, 42, it will be seen that—though none really belong—the character of the planes on the flakes closely agree with the planes on the hoofs. The long narrow end to flake 39 is seen to be exactly what must have come off



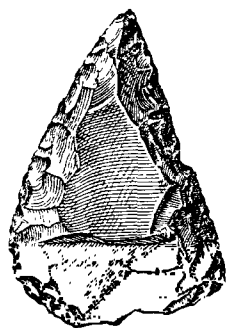
35-45 HOOF FLINTS AND FLAKES STRUCK FROM THEM.



46



47



48



49



50



51

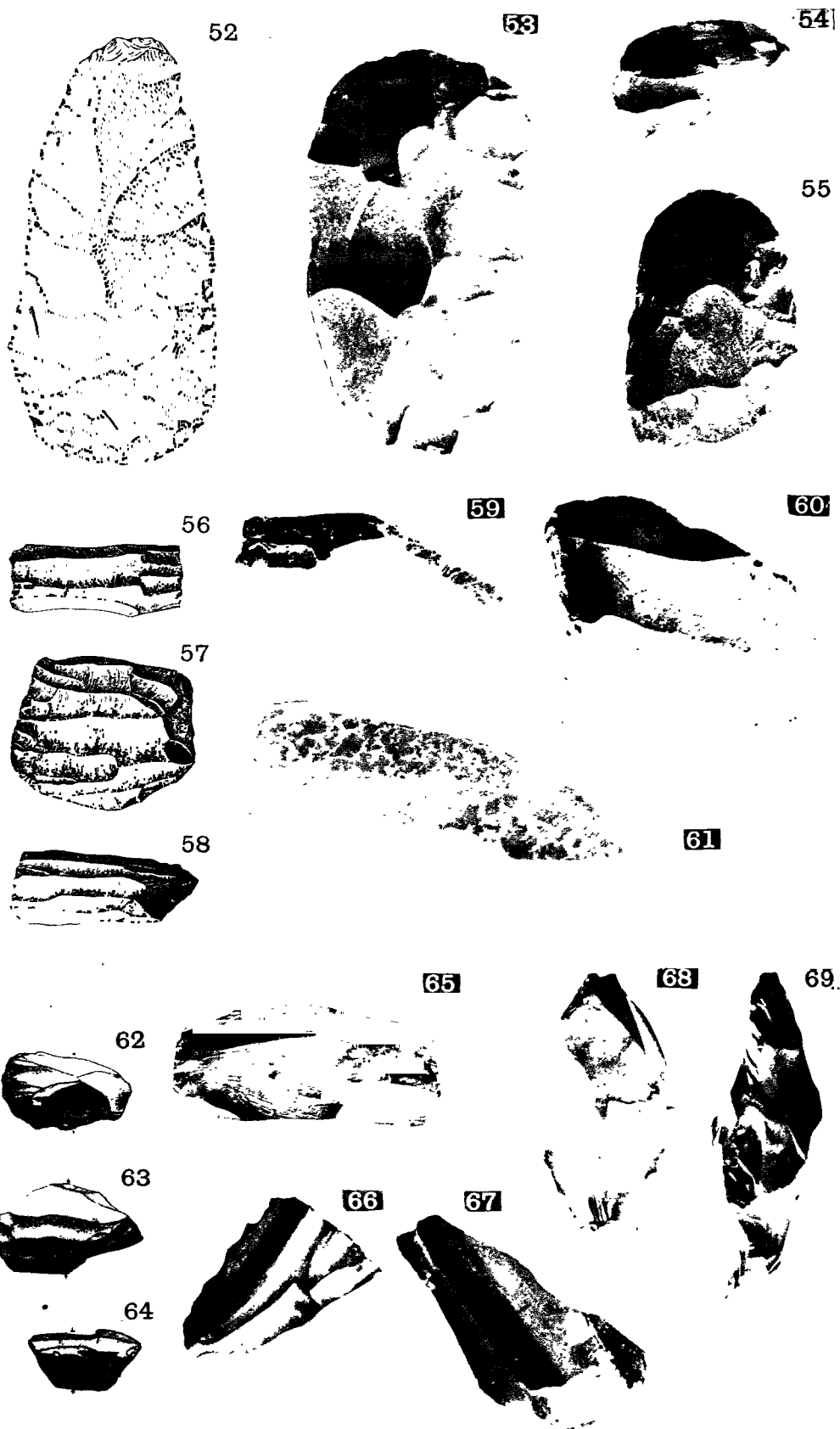
46, 47 LATE ACHEULEAN. 48, 49 EARLY—; 50, 51 MID MOUSTERIAN.

hoof 40. No. 45 is a very deep hoof, the thickness of which is two-thirds of the width. Flints of similar character are found of the Aurignacian period in Europe, compare 30 with 43 and 44 (S., xxxiii, 9, 10); but they are much smaller and used for scrapers, as will be seen by the figures, reduced to the same scale of one-half the object. The deep staining on the flakes and hoofs shows that they cannot be dated as late as Aurignacian times, and the system may perhaps be of the same age as the Northfleet blocks, mid or late Mousterian. The sites of the examples here are from Thebes to Abydos, and the flake of 41 as far north as Sohag. Most of the flakes come from the high plateau 800 to 1,400 feet up (1,000–1,600 feet over sea); the blocks have often been found at lower levels.

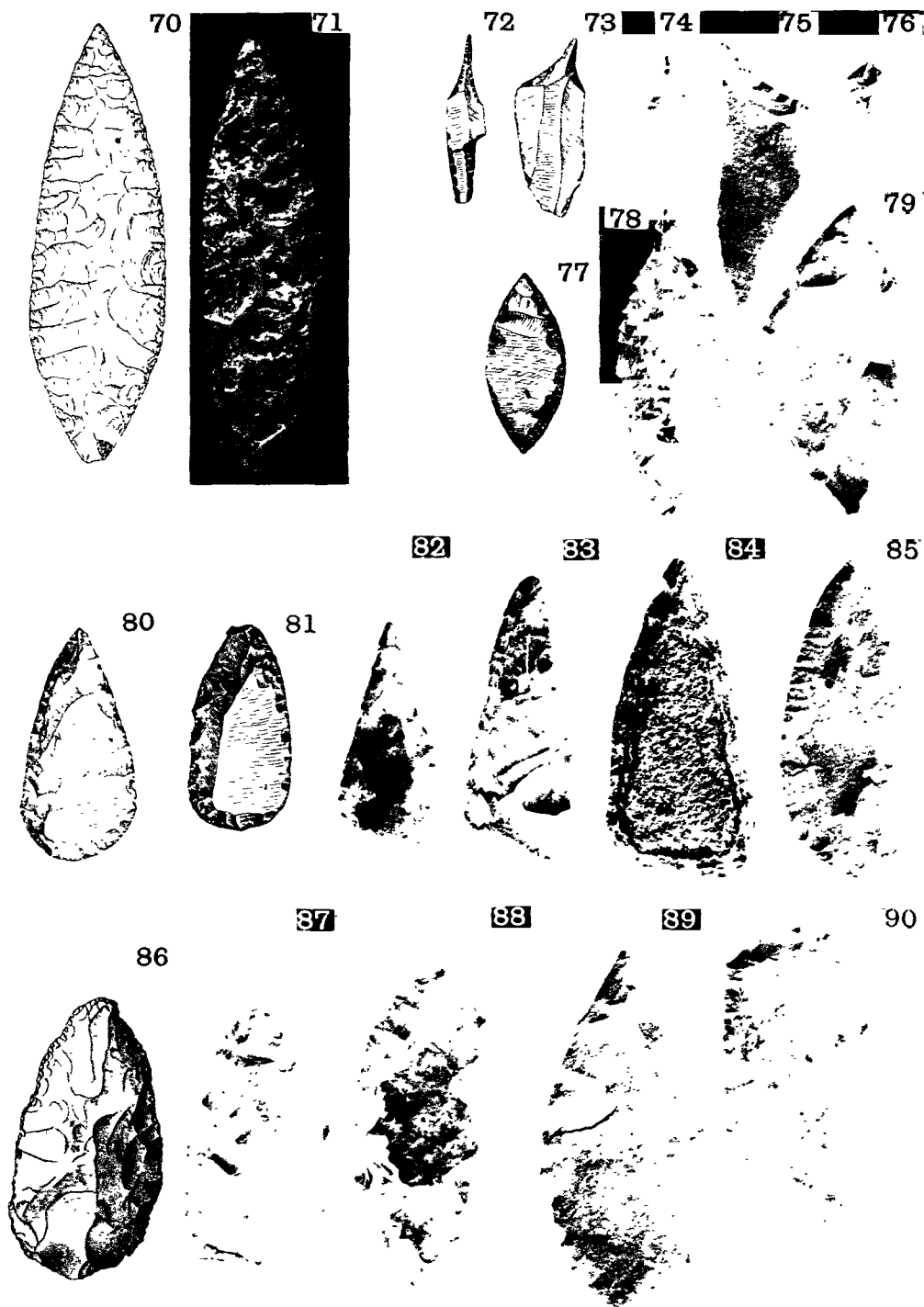
The next European examples are, 46 late Acheulean to Mousterian, 48 early Mousterian, 50 mid Mousterian. These forms are pretty closely equal to the Egyptian form placed opposite to each. No. 47 has a single-face back struck with one blow, as also is the parallel 46. It was found on the low desert 8 miles south of Semaineh. No. 49 is a pale fawn surface flint, found 4 miles south of Marashdeh. No. 51 is light brown, of a type found on either side of Dendereh. The much lesser amount of brown coating on 49 and 51 seems to mark a more recent age than the Chellean and Acheulean, which are dark brown in general, if they have been exposed. None of the following flints have more than a pale brown or fawn colour, only about a tenth of the depth of the coat on the early palaeoliths.

A large class of flints are the ovoids, as Nos. 53–55. These are found in a settlement at Naqadeh on the desert slope about 30 feet over the Nile; the site is marked by a hollow sound on walking over it, due to the large proportion of ashes in the ground. At the time when these were found it was supposed that they belonged to the same people as were buried in the adjacent cemetery of the prehistoric Egyptian civilisation. It was noticed at the time that this type was never found in the graves, nor were the types in the graves ever found in the settlement, but only some scraps of the grave pottery. As since then thousands of prehistoric graves have been recorded, and never any of these flints in them, it is evident that they belong to some period before the age of the cemeteries, that is to say, before about 8000 B.C. Yet the settlement was formed since the cessation of rainfall and retreat of the water level; for had it been long submerged it would have become solidified and not have had loose, dusty, resounding soil. The type is paralleled by a Spanish flint from Calvados, 52 (M., 419), which does not seem to be dated, but it most suggests the early Aurignacian age. There is no proof that the retreat of the water level might not have been, say, 50,000 years ago, and the settlement of that age, perhaps contemporary with the European Aurignacian; but I should not expect it to be of half that age. The form is so unhandy for nearly all purposes, that it is hardly likely to be invented in very different times.

Cores have been formed in all ages when flakes were required, and have therefore a wide range in all the later periods. Examples of French forms are given here in 56, 57, 58 (from Landes and Pontleroy, M., 252, 246, 247), and such are also known in Egypt. The thick prismatic core, flaked on all sides, Fig. 59, was found at Quft. Oblique cores, as 60, are specially Egyptian: this example is from Thebes, about 60 feet over plain. 61 is partly oblique, from a prehistoric grave; a similar core was found at Sohag, 600 feet over plain. From their forms they might be supposed to be Magdalenian, but 60 is considerably browned with age. Another type of core is acutely underhung, Nos. 65–67, the flaking planes being at only half a right angle to the striking plane. This angle is seen in the late Aurignacian scrapers in Europe, as 62, 63, 64 (S., vii, 11, 8, 9).



52-55 AURIGNACIAN? 56-67 CORES. 68, 69 WEDGE FORMS.



70-90 SOLUTREAN.

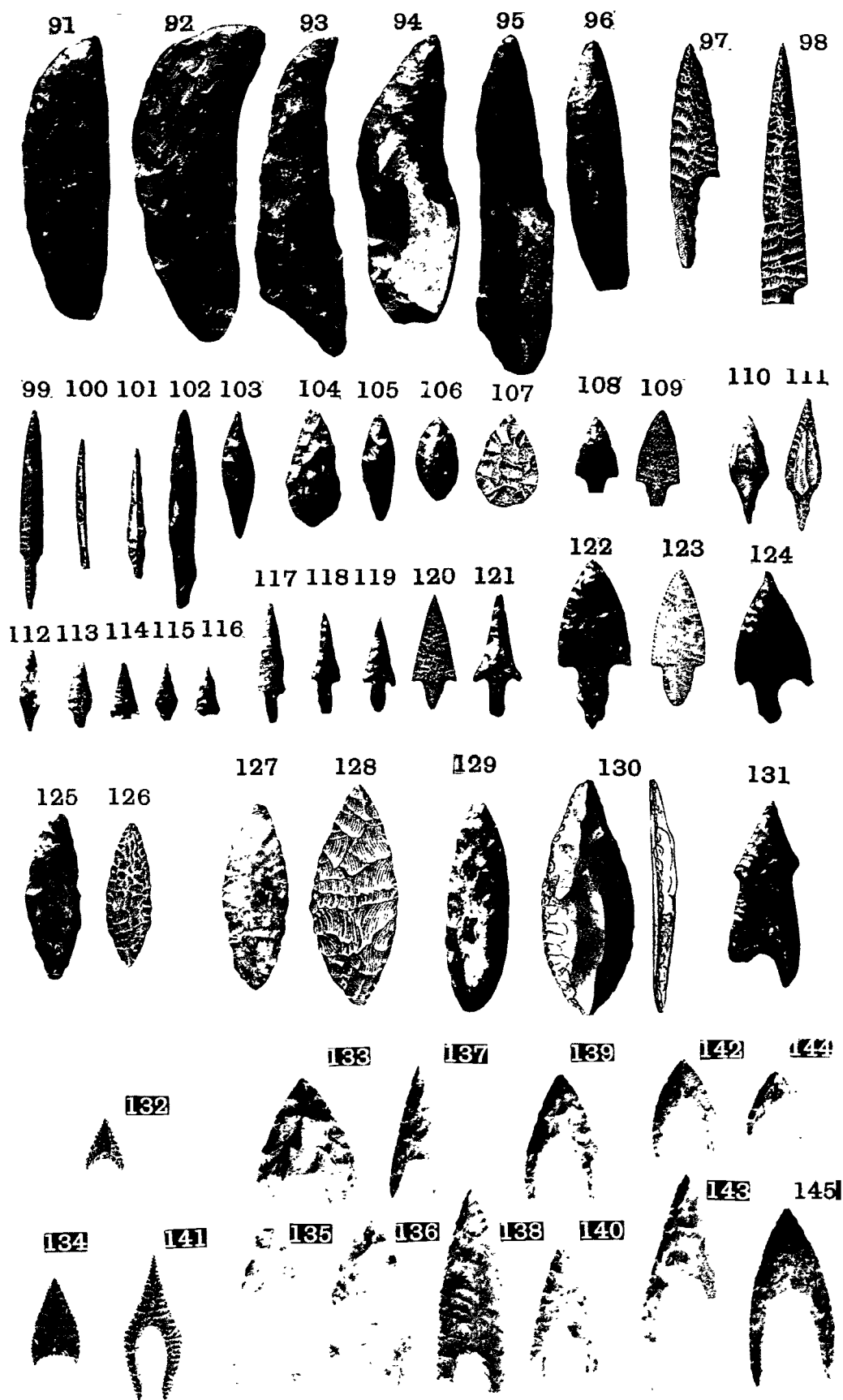
A strange wedge-shaped type 68, 69, belongs to the age of the ovoid flints, 53-55, as 68 was found in the settlement with those. The purpose of it is not clear, as it would neither cut, scrape, nor dig.

We now reach one of the clearest stages in the Egyptian series, that of the Fayum flints, found at Dimeh and other sites to the west of the Lake. Here, unhappily, as to records, we are even worse off than in the Nile Valley. The whole of the 300 specimens in University College have been found by natives, and are without any history. Most of them I selected at a dealer's from a barrel-full of many thousands, in order to show all varieties of types. The main fact which seems obvious about them is their close equivalence to the Solutrean family of Europe. The total absence of these types from the cemetery age of pre-historic Egypt shows that they must precede that period. The peculiarities of the Solutrean types are as follow: (A) The thin leaf-shaped blades, as in Fig. 70, from mid Solutrean age of Laugerie (Haute?) (S., Fig. 62), parallel with Fig. 71, from the Fayum. This and many other Fayum forms were made from thin natural layers of flint, which saved the trouble of making a flat plate of flint to begin with; but the faulty surface of the layer could not be removed, and spoils the appearance of the face. (B) Flakes were worked down to pointed forms for boring, as 72 (Grotte de l'Église, M., 110) and 73 (Solutré, M., 122); the same type appears in 74, 75, and 76. (C) The vesica form, equally pointed at each end is also found, as 77 from Grotte de l'Église, Dordagne (M., 106), and from the Fayum 78 and 79. (D) Thin flakes, pointed, and with a rounded butt are found at Solutré, 80, 81 (M., 118, 119), and very commonly in the Fayum, as 82 to 85, and 89. (E) Thicker flints, roughly chipped on the face, as the mid Solutrean 86 from Kleine Offnet (S., xvi, 7), are also found in this group, 87. (F) The small curved knives 91 to 93 are usual, and many have a thick unworked handle, as 93, 94, 95, left with a thick, flat, edge to bear against the hand. This is the best adaptation for the hand that is found in flint work. The narrow worked blade, 96, is like the forms from the Grotte de l'Église, 97, 98 (M., 108, 109). (G) The prismatic rods of flint worked on all faces, are characteristic of this age, as 99 (Denmark, M., 396), 100 and 101 (Mentone, M., 117, 116), and such also belong to the Fayum, 102. (H) Small equal-ended forms are often found minutely chipped over the whole surface, as 103, 105, 106, 125, 127, 129; and parallels to these come from Solutré, 126, 128 (M. 99, 95).

Of arrowheads the nearest parallels to the Fayum types are 109 Aveyron (with bronze (?), M., 387), 111 Denmark (M., 397), 120 Aveyron (M., 386), 123 Aveyron (M., 379). Most of these are worked over both faces; but 112 and 116 are flat on the back. Of the smaller forms, 133-135, there are very few in other countries; the nearest forms being 132, from Lago di Garda (M., 391), 134 from Mayence (M., 371), and the elaborate work of 141, from Portugal (M., 374).

Saw flints are common in the Fayum, as 147-149, and are nearly like the Danish type, 146 (M., 352). Such saw flints probably continued to be made into later times. Sickie flints, with smaller teeth and curved edge do not appear in the Fayum, but were very common in historic times, even down to the XVIIIth dynasty. The handled knife, 150, 151, appears in the Fayum group; but it looks as if it must be an intrusion, picked up by the native collectors from some source different to the rest of the series, as it borders on the type of the Ist dynasty.

153 to 157 are peculiar forms, of which the sources are unknown. The small flints with a straight base are found in Europe, 158 at the Lake of Constance, 159 at Doubs (M., 369, 370); they are curiously close to 160 from the settlement at

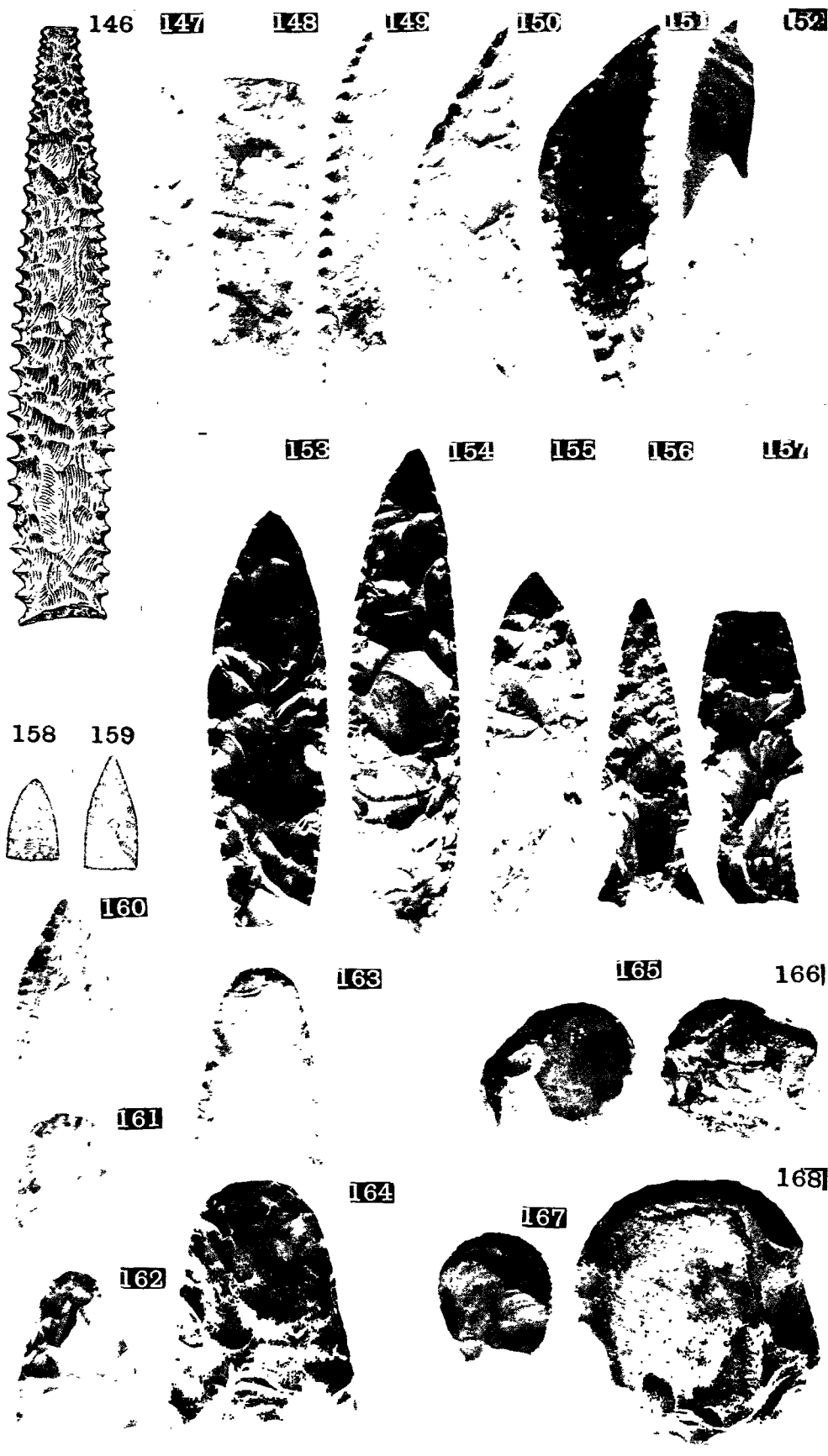


Naqadeh. This borders on the flat-based and round-ended type 161 from the same site, and 162 to 164. The latter two are finely worked, with the under side a remarkably flat fracture; the purpose of this type is unknown.

The round scraper is common in Egypt. 165 to 168 all have a single flat face below, and are almost flat above, with well rounded edge chipping. 165 is from the settlement at Naqadeh, 166 from 1,000 feet over the plain at Thebes.

W. M. FLINDERS PETRIE.

(To be continued.)



146-149 SOLUTREAN. 150-168 UNCERTAIN.

MORE OF THE EARLIEST INSCRIPTIONS.

SINCE the account of the earliest inscriptions, on the cylinders, was given in ANCIENT EGYPT (1914, p. 61), a large group of twenty-eight more such inscriptions has been brought forward by Mr. Blanchard of Cairo, who has collected them for some years past. I have particularly to thank him for making a set of casts, which he has kindly given me for study; from these the present drawings are made, and I hope to publish them in photograph when the general catalogue of cylinders may be issued.

For facility of reference these fresh inscriptions are numbered on from the previous series which ended at No. 75. Beside the twenty-eight here of the earliest class there are a few of historic times, continuing the numbers to 108. Mr. Blanchard's cylinders, being obtained from natives coming to Cairo, are mainly derived from Lower and Middle Egypt, and some are known to come from the Delta. In accordance with this there are twelve with the seated figure, which we have already noticed (1914, p. 66) as being the prototype of the Memphite steles; while there are only two of the *aākhū* birds, which are like those on the steles of Abydos. The distinction of these types, belonging to the North and South respectively, is therefore confirmed. The inscriptions are here grouped in the same manner as those before published.

SEATED FIGURES, 76-87.

No. 76 apparently only bears the personal name Nebzneit, a name given as dedicating the child to the goddess, "Her mistress is Neit."

No. 77 has the *theth* formula, "May she be like unto Neit;" and the name Hekasen, meaning "Magic conforms—or unites—the worshipper with the gods."

No. 78 has only the *theth* formula, "Like unto Neit and Hen." In No. 38 Hen occurs, apparently as a deity parallel to Neit. It may be an early form of writing the god Henena who is named in the Pyramid Texts (Pepy I, 636).

No. 79 bears the name Kanezneit, referring like No. 76 to a child being dedicated to Neit—"The mistress of the *ka* is Neit."

No. 80 is another Neit name, Auotesneit, "Neit is her inheritance."

No. 81 appears to read Pekhetneit, meaning, "This offering to Neit," or "This thing is of Neit," or "It is a thing of Neit," another form of dedicating a child to the goddess.

No. 82 reads, "Like unto Ahat, like to the circulating moon." The cow Ahat was the divine mother, identified with Isis as mother of Horus, and hence connected with the moon. This suggests that the favourite early names Beb, Beba, Bebu, Beba-onkh, Beba-res, Beba-senb, and others, may all refer to the moon-mother goddess.

No. 83 appears to read as the name Zesa, meaning "to revive," with *sa sa*, repeated parts of the name.



HER MISTRESS IS NEIT.



LIKE NEIT



LIKE HEN & NEIT



NEIT IS KA'S MISTRESS



NEIT IS HER INHERITANCE



NEIT TO OFFERING THIS



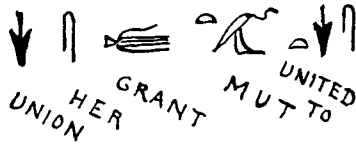
CIRCULATING OF MOON LIKE AHAT TO



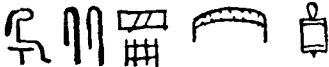
TO REVIVE



AN OFFERING



UNION HER GRANT MUT TO UNITED



SHEPSES



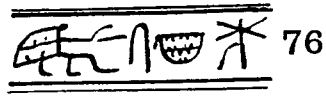
SEALER OF



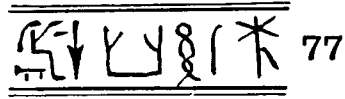
KA OF THE PERSEA



NEIT LIKE TO



76



77



78



79



80



81



82



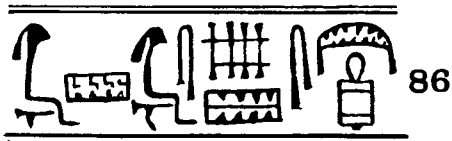
83



84



85



86



87

No. 84 is partly broken, but the imperfect signs point to there being three repetitions of the same group.

No. 85 is an invocation to Mut, "May she be united to Mut, grant her union." The name Sen-mut, "united to Mut," occurs on another cylinder, No. 74, and is familiar as that of the well-known architect in the XVIIIth dynasty.

No. 86 begins with a sign which is not certainly identified. It is probably the *sethet* sign, the early form of which is seen on the ivory gaming slip of King Qa (*Royal Tombs*, I, xvii, 30); this may be the same as the sign *o* used for "a caravan." As *sethet* designates both the people of the First Cataract and the Asiatics, it may well be that the two signs are identical, and mean "nomads" or "desert dwellers." This cylinder belonged then to the sealer of the caravan goods, or customs officer, named Shepses. The sign in question seems as if it was a bundle of goods rolled in a cloth, and secured by tying it up at each end. Such a form of bundle is earlier than a sewn-up sack, and would be suited for putting across an animal's back. Bundles like this I have often made up when packing in Egypt. Another sign which looks as if it might well be of the same origin is *kep* or *käp*, meaning "to hide"; this may be derived from the rolling up, and so hiding, things in a cloth. The good representation of the cylinder seal, with metal caps at each end, and a loop for suspension, should be noticed.

No. 87 begins with an invocation to Neit, "May she be like Neit"; followed by the personal name Pekashed. This sign *shed* occurs in very few words, and here it might mean, "May this *ka* be nourished," or "This *ka* of the Persea," as the sign is used in writing the name of that tree, *ashed*.

AÄKHU BIRDS.

No. 88 appears to bear only the personal name Aäba, repeated in different ways. The *aäkh*et bird is like those on cylinders Nos. 12 to 22.

No. 89 may probably be names repeated in different forms.

No. 90 belonged to a "Guardian of this house—or temple—of Neit."

No. 91 reads, "The gift of Sebek" with the name Nefer-hetem. This name, meaning "Excellence of fulfilment," is evidently an exclamation at the birth.

No. 92 expresses another devotion to Neit, "Neit makes perfect." Here the crocodile, Sebek, is a form of Neit (*see* LANZONE, *Diz. Mit.*, 1043-4); the association of Neit nursing two crocodiles is familiar in glazed pottery amulets. The personal name here appears to be Seba.

No. 93 reads, "Her *ka* is conformed—or united—to Bat." Here, in the place of the god's name of the formula, appears to be the bee. As no god is known named Bat, it seems that this is a prayer to be conformed to the king, so as to accompany him in his life with the gods.

No. 94 is confused with many repetitions. It is a prayer for conformity or union with the god Sa, who appears in the Pyramid Texts (Unas 439) and also later. He was one of the gods accompanying Ra. As *T* or *Tet* is brought into the formula, that is probably the personal name.

No. 95 bears a simple prayer, "Living gods give life"; or perhaps, in view of a minute *aäkh*u bird between the *net*er signs, it might read, "Gods of the Living Spirits give life."

No. 96 has the name of a high priestess, "The Divine Wife, Shedt." The sign below may possibly be a form of the hand which usually is written along with the *shed* sign.

FLAE

88

89

HOUSE OF NEIT
GUARDIAN OF THIS HOUSE

90

EXCELLENT OF FULFILMENT

GIFT OF SEBEK

91

U

NEIT MAKES PERFECT

92

HER KA IS UNITED TO BAT

93

D

UNITED TO SA

94

LIFE GIVE LIVING GODS

95

SHEDT

WIFE OF THE GOD

96

97

ANDU OF PRIEST
PRIEST OF BA.
PRIEST OF TEHUTI
COMMANDER OF THE KHENT HALL

No. 97 is the largest early cylinder that is known. It belonged to an official who was "Commander of the *khent* hall of the palace, priest of Tehuti, Ba, and Anpu." It is noticeable that this earliest known writing of Tehuti is repeatedly expressed by two birds, suggesting the dual, as in the termination of the name Tehuti. Similarly, the name of the god Mehti is written with two hawks; and the plural names Heru, Khnumu, and others, written with three animals.

No. 98 is not clear in its structure. It would seem to read, "May she go forth conformed from the *khent* hall," with the personal name Sha. The *khent* hall was the portico of the palace; and, from that, of the temple. In it the royal purification took place before admission to the temple; and it is probable that the ordinary worshippers were only admitted thus far. Here it was then that conformity or union with the gods would be ceremonially sought.

No. 99 has apparently the personal name Erdanefer, "Being well given," like the Greek name Eudōros. The title or prayer is not clear.

No. 100 has the same title as No. 69, the "Opener of the canal banks" at the inundation. The name is Nuna, the devotee of Nun, the primitive water-god.

No. 101. The Maltese cross sign is probably *un*, as in No. 58. The name Unn-ka expresses the satisfaction at the continuance of the family *ka* re-incarnated in the new-born child, "The ka exists," or continues to be.

No. 102 is much worn, and not intelligible.

No. 103 has a well-known title of pyramid times, the *her seshta*, or secretary, in the form *her khetm sesh neb*, "over the sealing of all writings." The personal name appears to be Seză, meaning to revive or make healthy.

No. 104 is of a different workmanship, and much worn in parts. It apparently did not bear any inscription similar to those here considered.

No. 105 may contain the name of an early king beginning Ar; he was prophet of Hathor who presided over the *duat* hall of the palace, or of the temple.

No. 106 is of Khafra beloved by Hathor.

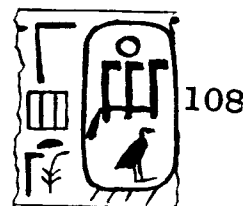
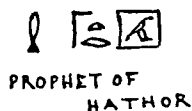
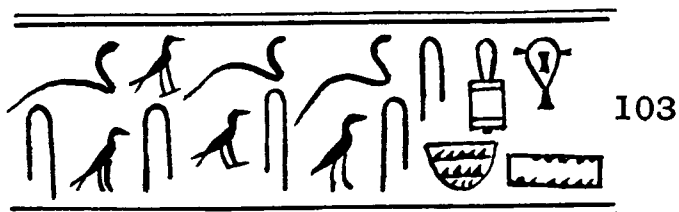
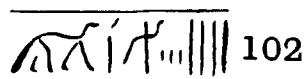
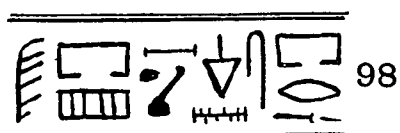
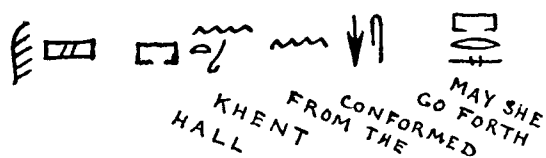
No. 107 is the same inscription.

No. 108 is a portion of a cylinder of Sahura. The inscription is too much broken to be safely restored.

It is satisfactory to see that nearly all of these cylinders are intelligible as to their structure, and most of them read as reasonably as the short expressions of later times.

W. M. F. P.





REVIEWS.

The Rock Tombs of Meir. Vol. I, *The Tomb-chapel of Ukh-hetep's son Senbi.*—A. M. BLACKMAN. 4to, 41 pp., 33 plates. 25s. (Archaeological Survey of Egypt, Vol. XXII.)

This book contains a thorough account of one of the tombs at Meir, of the beginning of the XIIth dynasty. The whole is given in drawing, which is of sufficient scale in the key plates and the details; while the more important parts appear in thirty-four photographs, and six colour photographs. The general type of the tomb is intermediate between those of Deshasheh and of Benihasan, as it is also intermediate in both its locality and age. A catalogue of the tombs of Meir, of the VIth and XIIth dynasties is given; and genealogies of three generations in the earlier group, and seven generations in the later. Especially may be commended the translating of the short sentences over the scenes, which have been too often neglected owing to their obscure brevity. Many points of interest are mentioned or discussed in the description. The nomarchs in the middle of the XIIth dynasty assumed much of royal attributes; behind Ukh-hetep V is the formula "All protection, life, stability, and happiness, all health, all joy, behind the Nomarch, over the priests, Ukh-hetep, for ever," and he is shown holding the *onkh* like a king or god. The type of the herdsmen is in some cases clearly not Egyptian, and is identified by Prof. Seligman with that of the Beja tribes in the eastern desert. The art of the tomb shows a peculiar development toward naturalism, rising between the VIth and XIIth dynasties; as such a movement is not traceable in the contemporary Denderah series of sculptures it would seem to have come in from the north, perhaps owing to the Asiatic invasion at the close of the Old Kingdom. The figures are shown in side view, without displaying the whole width of the shoulders, as in Pl. XXI, 2, 3, 4. The men as well as women are coloured yellow; and though the copper-red Egyptian is not likely to have been really modified, yet a Semitic rule may have made a yellow skin to be regarded as the correct tone. A long spiral side lock of hair sometimes is shown, which is not Egyptian. There is a discussion of the *ukh* emblem, which was a fetish of Hathor, so sacred that the ruling family took from it their name of Ukh-hetep. It seems to have been a disc with a pendent uraeus on either side, crowned with two straight feathers, and supported on a lotus handle, decorated with a bow tie and ends, or perhaps a *menat* collar as Mr. Blackman suggests. Against the latter interpretation it should be noted that there was only one pendent *menat* to a bead collar, not two ends as figured here. A point to remember is that the hieroglyph of Kusae is not a man with two giraffes, but with two long-necked panthers like those on the Narmer palette. One point may be reconsidered; in a footnote it is said that the reaper in the Kamara papyrus (ANCIENT EGYPT, 1914, p. 26) has his head protected by a sack. Such would certainly not be needed by any Egyptian during the spring harvest season. It

rather seems to be a linen bag to hold the ears of corn, hitching on over the head and hanging down on the shoulders; this would be parallel to the linen bag worn on the hip by harvesters in the IIIrd dynasty (*Medum*, XXVIII, Tomb 22).

The terrible indictment of past neglect and injury, by plunderers and authorised excavators, which is given without comment, is the best of reasons for hoping that all the other tombs of this district will be fully published as in this volume; and that scientific excavation may yet save a fraction of the amount that has been wantonly destroyed by the past generation.

Prolegomena zur Geschichte der Zwerghaften Gotter in Aegypten. VON FRANZ BALLOD. 8vo, 103 pp., 119 figures, with Russian abstract 11 pp. (Liessner, Moskau.) 1913.

One of the greatest needs of Egyptology at present is to form complete guides to all that is known about the various gods. The study here of Bes and allied gods, by a former Russian scholar of Prof. von Bissing, is therefore welcome; but appearing as a doctoral dissertation published at Moscow it may escape notice, and does not appear in Mr. Griffith's ample bibliography. We therefore give an abstract of the work here.

The various names of Besi-form gods are Bēs, Hayt or Hatti, Ahti, Ohāiu, Tettanu, Sept or Sopdu, and Segeb. The sources of these gods are stated from all authorities. The usual opinion is for the Punite origin, probably South Arabian; and some connect Bēs with the Semitic *bus*, "to tread down," *besay*, "a conqueror," referring to the warrior figures; others with the Egyptian *bāsu*, "the panther," referring to the skin dress of the god. The various aspects of Bes are quoted, as the god of dance, music, joy, toilet, of women, of birth and infancy, and of defence with sword and shield. If we had to give a single expression for the god, we could only call him "protector of domestic joy."

Next is given the chronology of Bes. First, with names. Of the Middle Kingdom is the inscribed headrest (Brit. Mus.) and figures of Ohāti (ivory wand). In the XVIIIth dynasty is Ohāiu (Book of the Dead, XXVIII). Ptolemaic figures are of Bes and Hayt, Roman of Ahti, Bes and Hayt or Hatti. With foreign attributes is Sopd, smiter of the Mentiu, Tetten, and Hayt. Bes is assimilated to other gods, as Segeb, Min-Hor, Mafdet, and Omom. Second, are dated figures without names; various dwarfs of the prehistoric in stone and ivory, and on seals; Middle Kingdom figures on ivory wands, and the box of Rifeh. In the XVIIIth dynasty, figures abound, on an ivory wand, birth scene of Hatshepsut, amulets, scarabs, spoons, furniture and vases. One of the finest examples—here unmentioned—is the ebony and electrum toilet box of Amenhetep II at Edinburgh. Of later dynasties there are scarabs, amulets (mainly XXIInd), rough vases (XXIIId–VIth), the Bes pillars (XXVth and Roman), complex polytheist figures of Bes as on the Metternich stele, the Serapeum bronze, and the great amulet (*Amulets*, 135aa), and lastly, the Roman terracotta figures. The Nubian forms follow.

The last section is on the types of Bes, classifying the above material by the forms. The dates of appearance of all the details and varieties of the types are stated,—the best summation in the book. Then follows a classified list of all the varieties of types used in different ways, with hundreds of references to publications. The important female form of Bes is only glimpsed in seven lines; it needs much fuller treatment.

All this is termed Prolegomena to the history of the dwarf-gods, and we must hope therefore that the study will be continued in various lines of research. Though

continually speaking of the *zwerghaften* gods, yet the whole subject of the real dwarf-god Ptah-seker is not touched. That is a very complex matter; the obscure relations to Ptah and Seker, and to the *pataikoi*, need much elucidation. In the whole treatment we need to define the range of the meanings of the various forms,—the relations to other gods in Egypt and in other lands,—the functions of the dwarf-gods. The method needs to deal more with the facts on which all is based, and not with copious quotations of opinions. It matters most what are the basic facts; how writers have understood them is quite secondary. The present work is too mechanical in piling together references, which largely mean repetitions of the same material,—too much an “emptying of note books.” As such it contains very useful material; but it needs much weeding. If the author will proceed to the constructive task of welding his prolegomena, and producing a real history from all that can be gleaned about dwarf-gods, fortified by parallels in other religions, and with just enough of past opinions to show what is already accepted, he will do a most valuable and permanent work. We hope also that future illustrations may be larger and more distinct.

Palestine Exploration Fund; Quarterly Statement, Jan., 1915. 8vo, 52 pp. 2s.

This number contains various papers of interest connected with Egypt. Lieut. TRUMPER discusses the route of the Exodus from a personal study of the region. The key of his position is that Marah is Ayun Musa. Thence he traces back, three days' journey (Ex. xv, 22), and reaches a site which he proposes for the crossing opposite Gebel Geneffeh, where he supposes Migdol to have been. He fully accepts the position of Pithom, and takes the milestone found there as proving that Clysma was eight miles from Ero, or Pithom, and therefore not to be sought for at Suez. In all this there are several matters which are not taken into account. The Antonine Itinerary proves that there was a Clysma near Suez, doubtless the present Kolzum north of Suez. But as the name Clysma merely means a shore, the milestone proves that there was a shore, or edge of a lake or sea, at eight miles east of Pithom. In the itinerary in Exodus it is certain that undistinctive stages are not noticed. From Etham, which all agree was about Ismailiyeh, there are but five days' journey specified in going south to Elim, which must be Wady Gharandel. The distance is 110 miles, so probably three days at least are not specified. This being the case, it seems more likely that Marah next before Elim is the bitter Ayn Hawareh, a few miles north of Gharandel, as that is three days in the wilderness from the last fresh water. Then the unspecified days' journey were either before or after the crossing, and thus the position of the crossing is not fixed, and may probably have been in the shallows near Sheykh Henedik, rather than in the deepest part of the Bitter Lakes. As to Rameses, which Mr. Trumper would place north of Pithom, there is no chance of its being out in the open desert; the only possible site for it is Tell Retabeh, where monuments of Rameses II and III exist.

Prof. MACALISTER gives an account of a collection of pottery at Jerusalem, with four photographs of groups by the owner, Mr. Herbert Clark. The open dish lamp is of seventh-century Greek origin, as at Naukratis. The pottery alabaster forms are Ptolemaic; in alabaster they may be of Persian period but not earlier.

Mr. OFFORD writes on the former extent of the papyrus growth in Egypt.

Mr. STANLEY COOK gives a summary of an important paper by Prof. Max Müller (*Jewish Quarterly Review*, April, 1914) on a papyrus of the reign of

Tahutimes III, now at Petrograd. This contains a list of envoys from a dozen cities of Syria, which must have been the residences of petty chiefs. These places are: (1) Megiddo; (2) Kinneroth, near Tiberias; (3) Yakasipu, Achshaph; (4) Shamaduna, supposed to be Shabbethon; (5) Taanach; (6) [Ru]²-sha'ara, supposed to be a Rosh-El, "God's Summit"; (7) Tinni (unexplained), perhaps Dan or Tipunu-Dibon; (8) Sharon; (9) Ashkelon; (10) Khusura, Hazor; (11) Hatuma, unknown; (12) Rakisha, Lachish, the first mention of that city. We should note that these names appear to fall in two separate groups geographically, 1-3 in Galilee, 9-12 in S.W. Palestine. The Egyptian names (see *Jewish Quarterly Review*) are transliterated in the system we use here, as follows, with probable equivalents:—

- | | | | |
|-----------------|-----|-----|---|
| 1. Maketa | ... | ... | Megiddo. |
| 2. Kinnaratu | ... | ... | Kinneroth, near Tiberias. |
| 3. Yakasipu | ... | ... | Achshaph, Yasif, 6 N.E. of Acco. |
| 4. Shamar(d)una | ... | ... | Shimron, 5 W. of Nazareth. |
| 5. Taonaki | ... | ... | Taanach, 4 S.W. of Megiddo. |
| 6. Shaora | ... | ... | Sh'arâh, 1½ S.W. of Sarona. |
| 7. Tinni | ... | ... | Denna, 7 S. of Sarona. |
| 8. Saruna | ... | ... | Esh-Sharon, Sarona, 6 S.W. of Tiberias. |

The furthest apart of these places are 3 and 5, 30 miles apart.

The southern group is to the south-east of Ascalon:—

- | | | | |
|-------------|-----|-----|---------------------------------|
| 9. Osqaluna | ... | ... | Ashkelon. |
| 10. Hūsurā | ... | ... | Hazor, Hadattah, near Ashkelon. |
| 11. Hatuma | ... | ... | Etam, 12 E.S.E. of Lakhish. |
| 12. Lakisha | ... | ... | Lakhish. |

Some of the identifications proposed by Prof. Max Muller differ from these. Shamaduna, also read Shamaruna by Prof. Golénischeff, M.M. identifies with Shabtuna of Thothmes III, now Shebtin, 9 E. of Lydda, which does not belong to the Galilee group. Saruna, now Sarona by Tiberias, M.M. connects with the plain of Sharon, which does not agree to its position in the lists. Shaora (or (Sha'ara), M.M. conjecturally reads Rosh-El, but does not identify it. It seems to be Sh'arâh by Sarona. For Tinni M.M. suggests Dan or Dibon, but Denna is near Sarona. In the southern group the Hazor Hadattah is named by Eusebius and Jerome as near Ascalon. Hatuma is not identified by M.M., but with the weak *h* it may well be Etam, the position of which is not certain, but supposed to be as above. The only way to deal with ancient names is to observe the geographical grouping, and then to search the map exhaustively in the probable region.

Cairo Scientific Journal, August, 1914. 1s. (Wesley and Son.)

Though this useful Journal is mostly occupied with modern questions, it contains also some papers of archaeological interest. In the above number is a valuable account of "Customs, Superstitions and Songs of the Western Oases," by Mr. HARDING KING. In Khargeh Oasis is a procession of a Mahmal, which is claimed as being the origin of the Cairo Mahmal that goes yearly to Mecca. A camel bears a tent in which is a hereditary occupant, who receives small offerings from the people. It may well be that an early custom is thus preserved; and as the Cairo Mahmal is said to have originated in 1272, it was certainly imported into Islam, and probably had some earlier source.

The most striking custom is that seven days after birth the child is placed in a sieve with salt and grains of corn ; these are sifted through and scattered in the village. "The ceremony is then completed by the father of the child trundling the sieve like a hoop through the streets of the village, . . . the sieve is trundled about so that when the child grows up he may be able to run quickly. This custom is common to both Khargeh and Dakhleh." This exactly explains a curious scene in the birth sculptures at Deir el-Bahri and elsewhere. After the birth of the child it is nursed by the goddesses, and presented to the gods ; after that appears Anubis, rolling a disc along upon the ground (*Deir el-Bahari*, LV). Dr. Naville states (II, 18) that this scene recurs "in all the birth temples, except at Luxor . . . From the text at Denderah I gather that this disc is the moon, and that the god is presiding over the renewal of the moon." The earliest mention of devotion to the moon, on a cylinder published in this number (p. 78), describes it as *Aoh ne beb*, "the moon of circulating" ; and the very common names of Beb, Beba, Bebu, in the earlier part of the history show how prominent was this aspect of the moon. Thus the surviving belief that the rolling sieve is a charm to give quick running to the child, agrees with the meaning of Anubis rolling along the circulating moon as an emblem of motion. There may be some further connection of the jackal-god with the three jackal skins which seem to originate the sign of birth, *mes* ; but of this there is not connective evidence as yet. At least we can now see the survival of the scene shown in the temples, and ascertain its import.






A custom agreeing with that in Southern Europe is that in order "To protect a tree from the Evil eye and ensure a good crop, some animal's bone—frequently a skull, wrapped up in cloth is hung up in the branches, and sometimes small doll-like figures are used in the same way." The bucrania for protection were well known in Egypt ; they appear over the doors on a prehistoric ivory carving (*Hierakonpolis*, XIV), over the shrine of the Fayum (*Tarkhan* I, ii, 4 ; *Labyrinth*, XXIX, and ever after), and dozens of coloured skulls trimmed for hanging up are found in the pan-graves (*Diospolis*, XXXIX). A curious illustration of the persistence of native custom in the female line is seen in the use of songs. "There are a number of songs peculiar to the Oases. They are all sung by women, while the men sing only Bedouin songs." This agrees with other instances where intrusive custom is restricted to the male descendants.

Mr. G. W. MURRAY gives a brief notice of the old mining camp of Bir Kareim, which has been suggested as the site of Sety's establishment in the Turin mine papyrus. The existing remains seem to be all Roman. He also mentions a discovery by Mr. G. B. Crookston of ancient workings for amethyst near Gebel Abu Diyeiba, between the phosphate mines of Wasif and Um Huetat. The cavities with amethysts are in veins in the granite which run straight for hundreds of yards. These seem like old faults filled up by gradual precipitation. Such a source agrees with the abundance of amethyst in the XIIth dynasty when Nubia was being exploited.



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



Zeitschrift für Aegyptische Sprache, Vol. LI, 1914.

LACAU.—*Suppressions et modifications de signes dans les textes funéraires.* It is well known that in the Pyramid Texts and in inscriptions of the Middle Kingdom certain signs are represented in a mutilated condition. This has been recognised as due to the belief that such signs had in themselves a certain danger, due to the fact that the objects, which the signs represented, had power to molest and even to kill. M. Lacau points out that the mutilation, and even suppression, of these signs was carried out to a considerable extent, and introduced many curious changes in the orthography. He calls attention to the fact that these alterations occur only in inscriptions in the actual burial chamber, or for the use of the dead only; and that the signs affected always represent living creatures.

Pyramid Texts.—In these inscriptions, particularly those of Unas and Teta, the human word-signs or determinatives, common in other Old Kingdom texts, are suppressed, and the word is spelt out in alphabetic signs. This is not the archaic method as is usually supposed, but an abnormal variation. In the texts of Merema and Neferkara the earlier system is reintroduced, but with the signs mutilated. Replacement of a dangerous sign by one which is harmless or neutral is also found. These neutral signs are  | \, often used instead of a human figure, especially in the dual and plural. The human figure as a word-sign is also replaced by another sign having the same phonetic value, e.g.,  the pronoun of the first person singular is replaced by ; in case of a determinative the human figure is replaced by another sign which gives an approximate sense of the word. Mutilation is the “killing” of a sign so as to render it harmless. The mutilation of the human figures consists in retaining the arms and legs in the characteristic attitude, and eliminating the body and sometimes the head. The same rules appear to hold good as regards animals, with the exception of the fish-signs; for in the whole of the Pyramid Texts there is only one representation of a fish (N. 537). The taboo on fish may account for this fact; as fish appear to have been considered peculiarly malevolent, they would be excluded from the near neighbourhood of the dead king. The scorpion is always represented without a tail, but for some unknown reason the  and  are never mutilated.

Middle Kingdom.—It is remarkable that the suppression or mutilation of signs is quite inconsistent at this period. Thus, the double sarcophagus of Mentuhotep, now at Berlin, contains human figures in the inscriptions on the inner sarcophagus, and none at all in the inscriptions on the outer. Yet the two were made for the same person and probably in the same workshop. In many instances in Middle Kingdom texts the human figure is replaced by the vertical line |, which is used for man, woman, or child signs; for the bearded man the sign is rather longer. The determinatives of the words for “enemy” or “death” are replaced by the diagonal stroke \. For the animal signs there is no fixed rule. The birds are often mutilated by the omission of the hinder parts including the legs. The serpents are represented with the heads divided from the bodies; the scorpion is

without a tail; and the royal wasp sometimes has the head cut off and is sometimes replaced by its equivalent . The sacred animals representing the gods are occasionally omitted altogether, the god's name being then spelt out phonetically and followed by ; or the animal is replaced by another emblem of the god.

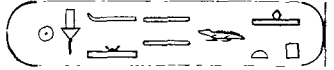
New Kingdom.—The suppressions and modifications continue in the New Kingdom, though the affected signs differ from those of the earlier periods. In the words for "enemy" and "death" the human figure is replaced by the circle  as in the Pyramid Texts. On the funeral cloth of Thothmes III all knife signs are omitted and the bird of evil  is sometimes suppressed. In other instances the negative sign  is replaced by , and the hand of force  by . M. Lacau's theory is that the idea underlying these changes is the belief that certain signs would be able to work harm to the dead in the darkness of the tomb.

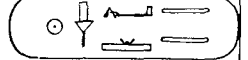
SPIEGELBERG.—*Eine Urkunde über die Eröffnung eines Steinbruches unter Ptolemaios XIII* (3 plates and 1 illustration). A demotic inscription in a quarry in Gebel Sheikh el-Haridi. Above is a scene representing Ptolemy XIII standing before Min, Horus, Isis, Harpocrates and Triphis. The inscription recounts that in the eleventh year of the king's reign on the seventh of Tybi, the day of the festival of Min, Psais son of Pe-alal, with his sons and brothers, opened the quarry.


SPIEGELBERG.—*Neue Denkmäler der Parthenios, des Verwalters der Isis von Koptos* (1 plate and 5 illustrations). This Parthenios, son of Paminis and Tapchois, is well known from the number of monuments dedicated by him. Several new inscriptions of his have been discovered; amongst others are the dedication of a sandstone door at Koptos in honour of the Emperor Claudius; the draft of an inscription recording repairs done to the sacred boat of Isis; and two much mutilated records, one referring apparently to some buildings in the temple of Isis at Koptos, the other to the "shā-house," i.e., the shrine of Geb at Koptos.

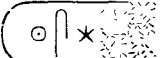

SPIEGELBERG.—*Ein zweisprachiges Begleitschreiben zu einem Mumientransport* (2 illustrations). A wooden label inscribed on one side in Greek, on the other in demotic. This is not an ordinary mummy-label, but the invoice for the transport of a mummy to Panopolis.

PIEPER.—*Untersuchungen zur Geschichte der XIII Dynastie* (1 plate). *Turin royal papyrus.* Some new and interesting readings are noted here. In column vii,

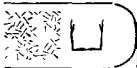

fragment 77, l. 6, the reading of the name is undoubtedly .

Rā-sekhem-hu-taui Sebekhotep, and not as it is so often read .

Rā-sekhem-khu-taui. In l. 10 are the remains of a name which apparently reads , Rā-ka-Set. This king's name is already known on a bead published by Legrain (*Ann. du Serv.*, VI, 134). The arrangement of the fragments shows that columns xi and xii should contain the XVth and XVIth dynasties, and this is borne out by the foreign names found in them. In column x, however, there are some interesting names. In fragment 108, l. 3, the king's name is to be read

, Rā-sba, not , Rā-snefer . . . In fragment 123,












l. 4, is a king , Ka-āanaty; a foreign name,

corresponding according to Burchardt, with the Canaanitish *ānt*. In l. 5 is another king ; the latter name is identified with the *Bvōv* of Manetho. There are three Hyksos kings whose cartouches end with , *Rā-nefer-ka*, *Rā-nub-ka*, and *Rā-sma-ka*. From the relative position of the names on the papyrus it seems probable that *Rā-nefer-ka* and *Rā-nub-ka* are the kings in question.

Moller's palaeographical researches have made it possible to identify the Turin Papyrus as a document of Lower Egypt; it must therefore embody the historical tradition of the Delta, which was not necessarily the same as that of Upper Egypt. In studying the lists it is obvious that the names of Egyptian kings fall into groups in each dynasty, both the throne and personal names. Taking, then, all the Sebekhoteps and Neferhoteps, we find that their throne names fall also into three groups, obviously closely connected. From this it seems evident that we have to do here with one complete dynasty scattered among the names of other kings. This can only be explained by the hypothesis that the Sebekhoteps belonged to a dynasty of Upper Egypt contemporary with a dynasty reigning in Lower Egypt.

BURCHARDT.—*Die Einnahme von Satuna* (2 plates). This is a little-known relief of an event in the reign of Rameses II, sculptured on a wall on the west side of the temple of Luxor. It represents the fortress of Satuna, standing on a hill, which appears to be surrounded by a forest of leafy trees and cedars; in the forest a bear attacks a fugitive; the king and his army are shown advancing on the citadel in the usual manner. The interest of the scene lies in the fact that, though the fortress must by its surroundings have been in Syria, yet its defenders are represented as Libyans, wearing the Libyan girdle, side-lock, and feathers; and also that the artist, having discovered his mistake, has attempted to rectify it by altering the hair and beards into the Asiatic form. The inscription on the fortress has also been altered, but the original signs have been so completely destroyed that it is impossible even to guess at them. An unusual point in this sculpture is the introduction of low-growing blossoming plants in the spaces among the figures.

EMBER.—*Kindred Semito-Egyptian words*. A list of a hundred Egyptian words with examples of kindred words in allied languages, chiefly Arabic and Hebrew. In many cases a short discussion is added.

SPIEGELBERG.—*Die allgemeine Orts und Zeitbestimmung*  *im Koptischen*. The sign , originally meaning "Hand" or "Arm," is often used to express time, place, or condition. This use passes into Coptic, where the word becomes **ⲁ**. Thus: **ⲁⲛⲧⲱⲟⲩ** "Mountain district"  . The Coptic **ⲁ**, which means "About," *i.e.*, an uncertain amount, also derives from ; in this use it is often preceded by a preposition, *e.g.*, **ⲛⲛⲁⲛⲛⲟⲩⲧⲧⲉ** **ⲛⲟⲩⲧⲟⲛⲉ** "About a stone's throw." The temporal form is also **ⲛⲁ**; **ⲛⲁⲟⲩⲛⲟⲩ** **ⲉⲛⲧⲧⲉ** "About two hours"; in this form the Sahidic **ⲛⲁ** becomes **ⲛⲁⲩ** in Boheiric. The third use is best exemplified in the expression **ⲛⲁⲩⲉ**, "In a condition of truth,"      .

MURRAY.—*The cult of the Drowned in Egypt*. The cult of the drowned being known throughout the world, it is only natural to look for it in Egypt. It is

a form of water worship, and is therefore found in some of the cults of Osiris. It seems also to have been connected with the sacrifice, actual or vicarious, of the king.

MEYER.—*König Sesonchosis als Begründer der Kriegerkaste bei Diodor.* The law-givers of Egypt, according to Diodorus, were six in number: Mnevis, Sasuchis, Sesonchosis, Bokchoris, Amasis, and Darius I. The first two are legendary, the last three are well known. Sesonchosis has generally been identified with Sesostris, but in Manetho Σεσωγχις (Africanus) or Σεσωγχωσις (Eusebius) is the form used for the Egyptian Sheshank.

Miscellaneous.

SPIEGELBERG.—A correction of a demotic inscription published in the previous number. The inscription should begin, "Afterwards it happened one day that Pharaoh betook himself to the burial vault of Apis."

SPIEGELBERG.—The Coptic date-word $\overline{\text{TCN}}$ is derived from the ancient $\overline{\text{TCN}}$ ⑩, and is not used for the Indiction; the T is the remains of the word ḥa-t.

EMBER.—Sethe has called attention to secondary stems in Egyptian with prefixed ḥ. These are paralleled in Mehri, a language of Southern Arabia.

M. A. MURRAY.

FLAXMAN SPURRELL.

1843-1915.

THE notice of the death of Flaxman C. J. Spurrell will not convey much to the present generation of workers in Egyptology; but his help and influence had largely to do with the wide and scientific treatment of the subject in England. Living near the Crayford pits, he was devoted, forty or fifty years ago, to the search for the mammalia in the brick earths there, and the study of flint implements. He discovered a stratum of flints left in the course of working on an old land-surface, and succeeded in re-constituting some of the flakes into the original blocks. On my exhibiting plans of ancient earthworks in 1876, he took much interest in them, and began a close friendship which led him to give his time largely to Egyptian matters for nearly twenty years. In the work of the unpacking and arranging collections, in studying the materials—especially the colours and gums—in sorting and drawing flint implements, and in other subjects, he was indefatigable. Some of the books of that time show his work in the plates, as in *Kahun*, *Illahun*, and *Naqada*, and in chapters written by him in the latter two books. In those years, before the present generation of workers arose, he was the constant helper in all the scientific questions that appeared, as well as in the hard work of handling the tons of materials that had to be received and despatched in England.

The stimulating manner in which he encouraged research could hardly be better shown than by a letter of his, dated in 1881. In that he wrote: "I do not know a treatise on the Geology of Egypt, in fact it is very uncertain, but it appears to me that the study of the evidences of a rainy time in connection with evidences of man, offers a splendid chance of proving the antiquity of the race. There must have been a time when the Nile Valley was excavated and the lateral valleys poured down in torrents the gravels in which implements have been found, and through which tombs have been cut. While this was going on, was the Nile depositing the present style of mud? If not, when did the mud begin, and were there no late periods of detached rainfall which might have overlapped and ploughed into the mud? Is the drought of Egypt increasing now or not—I mean, what is the rainless region doing, contracting or enlarging, and is it capable of being compared with the mud deposits? I do not know if there are records of more or less rain in ancient inscriptions. Is it possible that the rainy period coincided with our later glacial times?—it has often occurred to me that the rainy period in Egypt and Morocco was our glacial period—the showery, or intermediate period, was the heavy cold rain time which followed our glacial, and the rainless time of Egypt is our time of reduced rivers and the dry valleys of to-day. It seems probable that the pluvial period in this country was more likely to destroy life than the dry glacial cold—at least to me. Can you see anything worth examining in these matters?"

After a discussion of festooning in drift strata, and the confusion of black and blue in early colouring, comes a postscript: "Are you in town this week? If you are near the Brit. Mus. and can meet me for an hour or so, I will join you—but *not* unless you have occasion to be there. I have lots of questions.—F. C. J. S."

The many questions raised in this letter are not answered yet, after a third of a century ; but the article on the Stone Age in Egypt in this Journal will show that a little has been done toward the research so eagerly sketched out long ago. Personally, Flaxman Spurrell had a beautiful character. Abhorring all underhand doings, he avoided most of the current affairs as being too much mixed with cliques and wire-pulling. He was fastidious in his relations to men, as well as in his methods of work. Utterly true in the loyalty of his friendships, he was always ready to take up actively any piece of research presented to him, and to follow it unsparingly. It was most regrettable that he could not be persuaded to go to Egypt, and work with the stimulus of fresh material around him. But, as time passed, the pessimism which appeared in an assumption of cynicism over the intense kindness of his nature, grew into a melancholy tone. The entreaties of his friends would not lead him out, and for the last twenty years he seldom came from his retirement in Norfolk. Once and again in a few years he would suddenly appear for an hour or two, in a way tantalizing to those who remembered the keen interests of the past which he could no longer be induced to continue.

W. M. F. P.

NOTES AND NEWS.

OWING to the exigencies of the war, our workers are scattered in various directions. Mr. Guy Brunton is still in Red Cross work at Netley Hospital, acting as pay-sergeant there. Mrs. Guy Brunton has been in Hospital work on the East Coast.

Mr. Engelbach has returned from the front, where he was despatch riding, and is Lieutenant in the Royal Engineers, in training at Sheerness.

Dr. Walter Amsden is medical officer at Cooden Beach Camp, very closely occupied with inoculation and testing work.

Mr. H. Thompson (in Oxford and Bucks L. Infantry) is digging trenches on the East Coast, and came upon an ancient grave with Roman pottery.

Mr. G. R. North is now Lieutenant in 9th Batt. Queen's R. West Surrey Regt., digging trenches in Kent.

Miss D. K. Allan has been working on V.A.D., and joined the Scottish Women's Hospital at Asnières, as kitchen orderly; she is now in a ward at the Abbaye de Royaumont, nursing French and Turcos.

Miss Ruth Fry went to France as Secretary of the Friends' league for the protection of war victims, and is now returned.

Mr. Philip Button has been at the front from the first, and is now Captain in the 2nd R. Warwickshire Regt.

With the greatest regret we hear of the loss that Prof. Sir Gaston Maspero has suffered in the death of his son, M. Jacques Jean Gaston Maspero, who fell at the head of his division in the attack on Vauquois in the Argonne, on 18th February. M. Jean Maspero was known by his work on Greek inscriptions, and we shall all grieve at the loss of a scholar, and at such a blow to one of the leaders in Egyptology, to whom all will render their sincere sympathy.

Collection by THE BRITISH SCHOOL OF ARCHAEOLOGY IN EGYPT for the OFFICERS' FAMILIES FUND.

In December, I undertook to collect donations for the above-named war relief fund, from the annual subscribers of the British School. The correspondence has brought much satisfaction to us, so great has been the interest and the enthusiasm shown; except for one dissentient the subscribers have been unanimous in their approval, and have given hearty support to this cause. In the first month, nearly £230 reached me, in response to the appeal, shortly followed by another £100. During January, yet another £100 came in; about £50 more up to the present time (15 March) makes a total of £486 18s.

The Officers' Families Fund was established in 1899, and worked all through the South African War under experienced management. The Treasurer is Lord Milner, and the headquarters is at Lansdowne House.

Any contributions marked O.F.F., and sent to me at University College, Gower St., London, will be thankfully received, and acknowledged instantly by receipt, and will also be acknowledged in the *Times* and *Morning Post* on the first Thursday of the following month.

HILDA FLINDERS PETRIE.

THE EGYPTIAN RESEARCH STUDENTS' ASSOCIATION.

SOME of the branches have bravely maintained their activity. Others have flagged, but we hope that these will revive with the spring. It is still not too late to conduct a season's meetings, and the duty of keeping up former intellectual interests is more than ever felt by everyone. One or two of the branches mean to extend their meetings late into the summer.

LONDON. (Hon. Sec., Mrs. Sefton-Jones, permanent address, 74, Cadogan Place, S.W.)—Meetings, monthly; at 8 p.m. tea and coffee, 8.30 p.m. lecture. Dec. 10, at Mrs. P. Bigland's, an impromptu lecture kindly given by Mr. Sefton-Jones, on "The Bogomils." Jan. 29, Egyptian play, by Mrs. Purdon. Feb. 25, Mrs. Lewis, D.D., on "The Sinai Gospels." March 17, Miss M. A. Murray, on "Osiris." April and May meetings not yet announced.

GLASGOW. (*Pro tem.*, Rev. A. C. Baird, B.D., 14, Royal Terrace.)—At the University, Dec. 7, 8.30 p.m., Prof. Milligan, on "A thousand years on the Nile." Feb. 15, 8.30 p.m., Prof. Gregory, on "History of the Climate of Egypt."

HASTINGS. (Mrs. Russell Morris, Quarry Hill Lodge, St. Leonards.)—Oct. 17, Major Davenport, on "Ancient Egyptian Jewellery." Nov. 30, Dr. Spanton, on "Water Lilies of Ancient Egypt." Jan. 1, Mrs. Court, on "Sign Language." Feb. 17, at the Public Museum, Mr. Thos. Wright, on "The Fascination of Old Egypt." In April, lecture on Prehistoric Pottery. In June, garden (?) meeting.

ROSS-ON-WYE. (Mrs. Marshall, Gayton Hall)—Third meeting, Dec. 30 (Mrs. Cobbold), lecture on "Ptolemaic Period." Jan. 20 (Mrs. Cobbold), lecture on "Graeco-Roman Period." Mar. 3 (Mrs. Schomberg), lecture on "Analogy of African tribal customs to those of Ancient Egypt." A small lending library on Egyptian and Ancient History, free for members' use, is established in Ross.

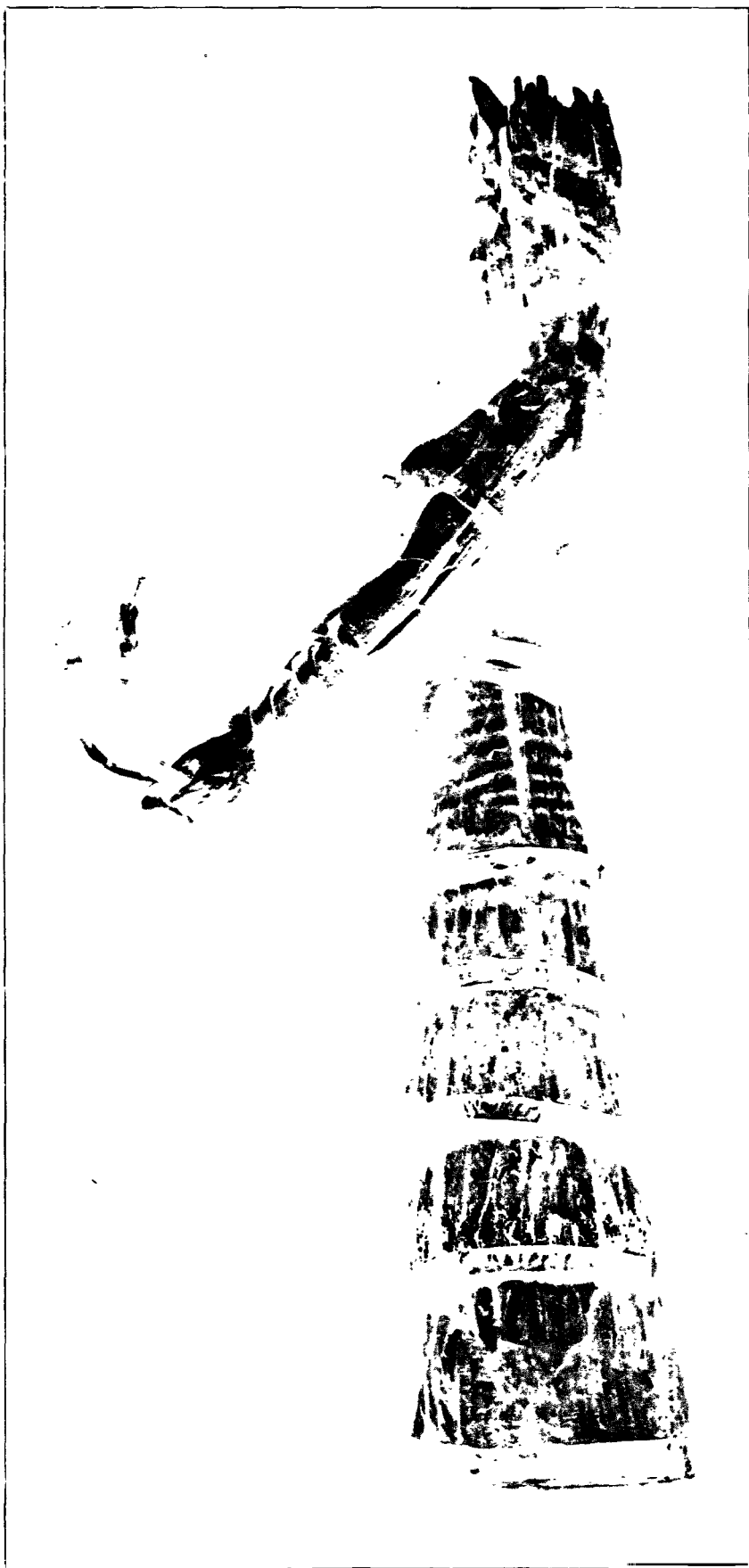
MANCHESTER. EGYPTIAN AND ORIENTAL SOCIETY. (Miss W. M. Crompton, the University.)—Monthly, 8 p.m., at the University. Oct. 5 (1914), Annual Meeting, when Prof. J. H. Moulton, D.D., was elected President, in place of Prof. Rhys Davids, retiring; Prof. Flinders Petrie, on "The Metals in Ancient Egypt." Oct. 31, Principal Burrows, on "Recent Excavations in Crete." Dec. 1, Rev. D. P. Buckle, on "The Book of Wisdom." Jan. 15, Miss M. A. Murray, on "Ancient Egyptian Literature and Legends." Feb. 17, Prof. Elliot Smith, on "Oriental Temples and Mummies." Mar. 19 (5 p.m.), Principal Bennett, D.D., on "Archaeology and Criticism."

HILDA FLINDERS PETRIE.

For the description of the Portraits see the first article by Prof. Gardner, on the supreme figure of Cretan art which we are permitted to publish by the authorities of the Boston Museum.



IVORY AND GOLD CRETAN STATUETTE, BOSTON MUSEUM,



IVORY AND GOLD CRETAN STATUETTE, BOSTON MUSEUM.

ANCIENT EGYPT.

TA TEHENU—"OLIVE LAND."

NO interpretation of the geographical name $\overline{\text{Ta Tehenu}}$, *Ta Tehenu*, has yet been given. Egyptologists usually understand the word to mean "Libya," but although this meaning is undoubtedly correct, it is not a translation of the name. Countries were often named by the Egyptians, as by other peoples, after the chief product of the land. They called Lower Egypt $\overline{\text{Ta-meh}}$, *Ta-meh*, "Flax-land"; Middle Egypt, $\overline{\text{Ta shemā}}$, *Ta shemā*, "Reed-land"; Syria (in early times) $\overline{\text{Ta-nter}}$, *Ta-nter*, "Neter-land," i.e., the land of the *nter*-pole; and Nubia, $\overline{\text{Ta-pedt}}$, *Ta-pedt*, "Bow-land," because the bow was the principal weapon of the inhabitants. $\overline{\text{Ta Tehenu}}$, is, of course, "*Tehenu*-land," but the question to be answered is, What is $\overline{\text{Tehenu}}$?

One of the most important products of $\overline{\text{Tehenu}}$ was an oil which is named in Old Kingdom lists of offerings $\overline{\text{hātet tehenu}}$, "*Tehenu*-oil." Sometimes this oil is named $\overline{\text{hātet nt Tehenu}}$, "Oil of *Tehenu*," and often, in later lists, the $\overline{\text{determinative}}$ is added showing that the Egyptians recognised the oil as a product of *Tehenu*-land. $\overline{\text{hātet nt Tehenu}}$, "Oil of *Tehenu*-land," it should be remarked, is never found. Generally mentioned with *Tehenu*-oil is $\overline{\text{hātet āsh}}$, "Cedar-oil," and this name is also often written $\overline{\text{hātet nt āsh}}$, "Oil of Cedar." It is therefore probable that if $\overline{\text{hātet nt āsh}}$ is "Cedar-oil," $\overline{\text{hātet tehenu}}$ means "*Tehenu*-oil" and not as it is usually translated "Libyan oil." What then is *Tehenu*-oil?

On some Ist dynasty labels for oil jars found by Prof. Petrie at Abydos this oil is named $\overline{\text{hātet}}$,¹ and the tree branch determinative $\overline{\text{tree}}$ of the word shows that it was the produce of a tree. If we can identify this $\overline{\text{tree}}$ -tree,² then we have the origin of the name of the country, $\overline{\text{Tehenu}}$. What was this $\overline{\text{tree}}$ -tree?

On an Archaic Slate Palette in the Cairo Museum (*Cat. Gén.* No. 14238) there is sculptured a scene in relief depicting some domesticated animals, and below is

represented a plantation of trees (see Fig. 1). These trees have thick trunks and branches. On the right-hand side of this plantation is the sign } which is certainly the name of the tree. One of the readings of this }-sign is *tehenu*. The sign itself represents a club (see Fig. 2) and when it is found in hieroglyphic inscriptions with coloured detail it is sometimes painted yellow with black cloudy graining (*Beni Hasan*, III, Pl. V). We have therefore four facts to guide us in the identification of the tree. First, it was a tree of sturdy growth with thick trunk and branches. Second, the word-sign for its name is a club, from which we may presume that its wood was used for making clubs, and consequently tough and hard. Third, its wood was yellowish with black, cloudy graining. Fourth, it was an oil-producing tree. Now there is only one Egyptian tree that will answer to the above description and to the figure as shown on the Archaic Slate Palette. This is the olive-tree which, as is well known, is of sturdy thickset growth, has yellowish wood with cloudy graining, produces a valuable oil, and its wood was used in antiquity for the manufacture of clubs.³ Hence we may, I think safely, translate the geographical name $\equiv \} \overline{\bigcirc}$, "Olive-land."



FIG. 1. OLIVE TREES AND CATTLE ON SLATE PALETTE.

There is one other fact which points to the identification of the *tehenu*-tree with the olive. The common name of the olive tree in Egyptian texts is $\text{𓂏} \text{𓂐} \text{𓂑} \text{𓂒}$ *baqt*, and for olive oil $\text{𓂏} \text{𓂐} \text{𓂑} \text{𓂒} \text{𓂓}$. In lists of offerings, however, this name is found only twice and these two instances are very significant. In the tombs of Rahotep and Nefert at Mèdûm⁴ we have a list of sacred oils, and $\text{𓂏} \text{𓂐} \text{𓂑} \text{𓂒}$ (Rahotep), $\text{𓂏} \text{𓂐} \text{𓂑}$ (Nefert), and $\text{𓂏} \text{𓂐} \text{𓂑} \text{𓂒} \text{𓂓}$ (Rahotep) $\text{𓂏} \text{𓂐} \text{𓂑} \text{𓂒}$ (Nefert), are mentioned together. The first is *ānd nt ā*, "oil of ā," the second is *ānd nt baqt*, "oil of olive," and these two names take the place of the $\text{𓂏} \text{𓂐} \text{𓂑} \text{𓂒}$ and the $\text{𓂏} \text{𓂐} \text{𓂑} \text{𓂒}$ of other and later lists.

It has been remarked that *Ta Tehenu* (which we may now call "Olive-land") is usually understood to mean Libya, but Libya is a vague term. By some classical writers Libya was understood to mean the whole of Africa west of the Isthmus of Suez, by others, all the country to the west of Egypt including the Oases.⁵

Egyptologists generally hold to the latter definition, but there is evidence to show that in early times, at all events, Olive-land included the Mareotis lake region and all the country to the west of the Canopic branch of the Nile, possibly also *much of the Delta itself*. There can be no doubt whatever that Olive-land was a very rich and prosperous country. King Sahure of the Vth dynasty captured from its people no less than 123,440 oxen, 233,400 asses, 232,413 goats, and 243,688 sheep." This immense number of large and small cattle is evidence that Olive-land must have included within its boundaries very extensive grass-lands. Several centuries earlier than Sahure, Narmer-Menes conquered the people of Olive-land. This conquest is recorded on a small ivory cylinder (Fig. 3) found at Hierakonpolis,⁷ and it confirms the statement of Manetho⁸ that the founder of the Egyptian monarchy undertook an expedition against the Libyans. Another record of the same expedition is the famous Slate Palette of Narmer-Menes which shows the Upper Egyptian Falcon-king smiting the Chieftain of the Harpoon Lake (Mareotis), and on the verso is the scene of a festival at the Great Port which, as I have shown elsewhere, was probably situated near the mouth of the Canopic branch of the Nile.⁹



FIG. 2. THROW-STICK,
OR ANGULATED CLUB.

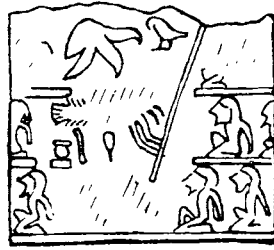
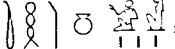



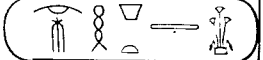







FIG. 3. CYLINDER OF NAR-MER
CONQUERING THE TAHENU.

(FIG. 4, see *Frontispiece*.)

The Libyan people were called , and Prof. Maspero has shown¹⁰ that this ethnic name was often used synonymously with , that the one name could in fact be used for the other. The full significance of this has not yet been recognised. The Northern Delta was called , *Ta-meh*, "Flax-land," and the people of this "Flax-land" were apparently known as , for a variant of the name of a queen¹¹ of the Early XVIIth dynasty .

Aāhmes Hent ta-meh, "Ahmose, Mistress of Flax-land," is .

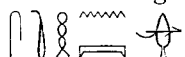
Aāhmes Hent-temehu, "Ahmose, Mistress of the *Temehu*-people." The centre of the flax-weaving industry in Egypt was Sais in the Western Delta, and this city appears to have been the capital of "Flax-land" at the time immediately preceding the Ist dynasty. Neith of Sais has generally been recognised as a Libyan goddess; the people of Sais were undoubtedly Libyan in origin; at Sais was the , "Temple of the Bee (or Hornet)"; and the title of the kings of , "Flax-land," was , *batī*, which, as Prof. Petrie has pointed out (*Royal Tombs*, I, p. 36.), was very probably the Libyan royal title. The kings of Egypt mentioned on the

Palermo Stone are figured as wearing the -crown of Neith, and it was by his marriage with Hetep, the chieftainess of Sais, that Narmer-Menes united the two kingdoms of Egypt under his sole authority.¹² The kingdom which Narmer-Menes conquered was therefore the *Libyan* kingdom of Lower Egypt.

NOTES.

¹ See my paper on "The Wooden and Ivory Labels of the First Dynasty," in the *Proceedings of the Society of Biblical Archaeology*, 1912, pp. 288.

² Although we find no direct mention of this *tehenu*-tree in later texts it is interesting to note that we have a reminiscence of the name in the word

 found in the "Papyrus Harris," VIII, 4.

³ Beyond the fact that the word-sign for the name of this oil-producing tree is a club, we have as yet no other Egyptian evidence on this point, but it is worth noting that Theocritus mentions that the Cyclop's club was of olive wood, and Pausanias (ii, 31, 10) remarks that it was from the club of Hercules that the wild olive sprang. Classical writers also mention that olive wood was the favourite wood for making the handles of axes and tools and in this connection note the colouring of the adze-sign figured in *Beni Hasan*, III, Pl. V, No. 73.

⁴ Petrie, *Medum*, Pls. XIII and XV.

⁵ Herodotus, for instance, understood by the name Libya sometimes the whole of ancient Africa (IV, 42), sometimes Africa exclusive of Egypt (II, 17, 18; IV, 167).

⁶ See L. Borchardt, *Das Grabdenkmal des Königs Sahu-re*, Band II, Bl. 1. It is interesting to compare that plate with the scene on the fragment of the Slate Palette shown in Fig. 1. The Slate Palette very probably recorded an early king's captures in Olive-land.

⁷ See *Hierakonpolis*, I, Pl. XV.

⁸ Muller-Didot, *Fragmenta Historicum Graec.*, II, pp. 539, 540.

⁹ *Liverpool Annals of Archaeology and Anthropology*, I, pp. 20, 21.

¹⁰ Maspero, *Sinouhit*, p. XXX, 2.

¹¹ Maspero thought these names indicated two different princesses, but Daressy has shown in the *Annales du Service*, IX, pp. 95, 96, that they refer to one and the same princess.

¹² See my paper "To what Race did the Founders of Sais belong?" in the *Proceedings of the Society of Biblical Archaeology*, 1906, pp. 68-70.

THE MOTHER OF HATSHEPSUT.

In the preceding paper I have mentioned a queen named Ahmose Hent-ta-meh and Ahmose Hent-temehu. Her name is written variously :—












- (1)  Maspero, *Les Momies royales*, p. 543.
- (2)  (*Ibid.*, p. 544.)
- (3)  (*Ibid.*, p. 544.)
- (4)  (Daressy, *Ann. Serv.*, ix, p. 95.)
- (5)  Lepsius, *Denkmaler*, iii, 8 a.
- (6)  Lepsius, *Denkmaler*, iii, 2 a (cf. d).



FIG. 5. QUEEN AHMOSE, DEIR EL-BAHRI.
(From a Painting by Mr. Howard Carter.)

From No. 2 it will be observed that Ahmose was this princess's principal name, and that she was  "called" Hent-temehu, the latter name was, therefore, a secondary one. Now we cannot believe that this secondary name, which means "Mistress of the Temehu," was meaningless. She must certainly have had some connection with the Temehu people of the North, and this connection was probably through her mother Anhapi, who is described as a

King's Daughter, but whose parentage we do not know. The titles given above show that this Ahmose was a King's-Daughter, a King's-Sister, a King's-Wife, and a Great King's-Wife. All the evidence regarding her goes to show that she was a daughter of King Ahmose I, and this point has been granted by all Egyptologists. Now if she was a King's-Daughter in virtue of her being a child of Ahmose I, she was, therefore, a King's-Sister in virtue of her being a [half-]sister of Amenhetep I. But the question arises, Was she the latter king's wife? There is no evidence to show that she was. On the other hand the successor of Amenhetep I was Thothmes I, and his claim to the throne of Egypt was made good by his marriage to a Princess Ahmose. This Princess Ahmose is usually taken to be a daughter of Amenhetep I, but there is no evidence whatever for this assumption. The queen of Thothmes I was famous as the mother of Hatshepsût, and she is described on the walls of the Deir el-Bahri temple as  = "King's-Sister,"  "Great King's Wife,"  "King's-Mother." The King's-Sister title would refer to her being [half-]sister to Amenhetep I, Great King's-Wife to her being queen of Thothmes I, and King's-Mother to her being mother of Hatshepsût. She was also  "Great Heiress," and it was in virtue of this latter position that her husband made valid his claim to the throne. Now as we have no evidence of a daughter of Amenhetep I being named Ahmose, and as we know of a daughter of King Ahmose I bearing the name, and that this daughter was also a Great King's-Wife, I suggest that the celebrated Queen Ahmose, the mother of Hatshepsût, was really the Ahmose, daughter of King Ahmose I, who was called "Mistress of the Temehu." A fact that lends colour to this theory is that her daughter, Hatshepsût, clothed herself in male attire, which seems to have been a custom with Libyan chieftainesses. It is true that we know very little about the Libyan people as yet, but it is remarkable that on the Sahure Reliefs (see Fig. 4) the Chiefs' women are clothed in male dress: and a tile from Medinet Habu shows a Libyan woman wearing the regular male kilt and robe (see Oric Bates, *The Eastern Libyans*, p. 113). Perhaps Hatshepsût, when she adopted male attire, was only following in the footsteps of her mother's ancestors.

PERCY E. NEWBERRY.

MULTIPLE SOULS IN NEGRO AFRICA.

To the twenty-three headings connected with death and burial under which Prof. Petrie discusses the relation of Egypt to Africa (*Egypt in Africa*, ANCIENT EGYPT, 1914, III and IV), I should like to add yet one other, viz., the belief that the individual is constituted of a number of incorporeal elements, one of which is usually the "double." For brevity I propose to call this the doctrine of "multiple souls." Its existence in ancient Egypt is so well authenticated that I shall make no further reference to this; but it is less commonly recognised that it is held in Africa at the present day.

I do not suggest that the following examples constitute even a moderately complete list of the instances already recorded: I only give some of the more striking examples. It will be noticed that the literature from which these are taken is quite recent, no doubt because it is only within the last few years that an interest has been taken in the subject, but going a little further back, Colonel Ellis' works suggest that the belief exists among the tribes of the Guinea Coast, although full details are not given.

The following account is taken from the latest of Ellis' volumes:—¹

"The Tshi-speaking people believe that every man has dwelling in him a spirit termed a *kra*, which enters him at birth and quits him at death, and is entirely distinct from the soul, which, at the death of the body, proceeds to the Land of the Dead, and there continues the life formerly led by the man in the world. The Ewe-speaking peoples have a similar belief, the indwelling spirit being by them termed a *lu'wo*. The Gã-speaking tribes, situated geographically between the Tshi and Ewe tribes, assign to each individual two indwelling spirits, called *kla*, one male and one female, the former being of a bad and the latter of a good disposition. Each *kla*, like the *kra* and the *lu'wo*, is a guardian-spirit, but they give good and bad advice, and prompt good or bad actions, according to their respective dispositions. The Yorubas hold that each man has three spiritual inmates, the first of whom, *Olori*, dwells in the head, the second, *Ipin ijeun*, in the stomach, and the third, *Ipori*, in the great toe.

"*Olori*, sometimes called *Ori* (head, faculty, talent), seems to be the spirit which answers to the *kra* or *lu'wo*. He is the protector, guardian and guide. Offerings are made to him, chiefly fowls, as with the *kra* and *lu'wo*, and some of the blood, mixed with palm-oil, is rubbed upon the forehead. *Olori* brings good-fortune.

"*Ipin ijeun*, or *ipin ojehun*, 'he who shares the food,' is perhaps considered the most important of the three indwelling spirits, but as he shares in all that the man eats, he has no special sacrifice offered to him.

"*Ipori*, [in] the great toe, is the least important of the three guardian spirits, and sacrifice is rarely offered to him, except when a man is about to set out on a journey, in which case he anoints the great toe with a mixture of fowl's blood and palm-oil.

"The ghost-man, or soul, the 'vehicle of individual personal existence,' is called *iwün*, or *okan*, but the latter also means 'heart.' Another word is *ojiji*, or

¹ *The Yoruba-Speaking Peoples of the Slave Coast of West Africa* (1894), pp. 124 sqq.

oji, which has the meanings of ghost, shade, or shadow. After the death of the body, the ghost-man goes to *Ipo-oku*, 'the Land of the Dead' (*ipo*, place; *oku*, dead), which is beneath the earth, and where each man does that which he has been accustomed to do, and holds the same social position as he did in the world. To enable the ghost to reach this land it is essential that he should have the prescribed funeral rites performed over him. Should they be omitted, the ghost wanders about the world, cold, hungry, and homeless, and he runs the risk of being seized by some of the evil spirits which roam about the earth in great numbers, and cast by them into *Orun-apadi*, 'the unseen world of potsherds,' an uncomfortable place like a pottery furnace, heaped up with charcoal and the *débris* of broken earthen pots."

To the north, among the Hausa of Nigeria, somewhat similar beliefs prevail, complicated, however, by Arab influence. Major Tremearne's account shows that the visible body contains "the soul," *kuruwa*, distinct from the "shadow," *ennuwa*, and the "life," *vai*, "the former being situated in the heart, the latter wandering at will all over the body." In addition there is "the familiar, *bori*, of the same sex, a kind of second soul, . . . it acts as an intermediary between its human host and the denizens of the jinn country." This *bori* "is like the being to which it belongs, but it is outside him, and casts no shadow, and it is really a double. . . . It . . . wanders when the owner sleeps . . . though it does not necessarily go in company with the soul, . . . Its duty is to protect the being from injury by another *bori*, and 'if it is stronger than the enemy, all you will know is that you feel tired on account of the struggle; but if weaker, it will be worsted, and you will become ill.'"¹ Moreover, "from about puberty until marriage, most Hausas have another *bori*, but of the opposite sex, with which they have relations, and when a boy or girl thinks of marriage he or she must consult his or her female or male *bori*, for it does not like being ousted by a human rival. . . . Lastly, there are two angels, one hovering above the right shoulder, the other over the left, which record the good and evil thoughts of the person to whom they are attached."²

The doctrine of multiple souls is widely spread in the Congo area. Mr. R. E. Dennett gives the following account of the beliefs of the Bavili, a Bantu-speaking tribe of Luango, the northern portion of the Congo coast district. They hold that man consists of the following elements:—

The *ximbindi*, or "revenant," a visible element which stays in the house after death, and then lives in the forest.

The *xidundu*, "shadow," which sleeps in the body of its owner; it enters and leaves the body by the mouth, and is likened to the breath (*muwu*) of man. When a man swoons it is because a sorcerer has taken his *xidundu*.

The *nkulu*, "soul," the "guiding voice of the dead." The *nkulu* prefers to dwell in the head of a near relative. It seems that a *nkulu* may be present in the earth taken from a grave, and it is the *bakulu* of ancestors that cause women to bear children and babies to sicken.

The *xilunzi*, also called *ndunzi*, the "intelligence," dies with man.³

It seems probable that the *xidundu* is a "double," but it is not always easy to be sure of Mr. Dennett's meaning.

Among the tribes, as far as we know them, inhabiting the area drained by the southern affluents of the Congo, the problem presented by man's nature has

¹ A. J. N. Tremearne, *The Ban of the Bori* (1914), pp. 19, 136, 137.

² A. J. N. Tremearne, *op. cit.*, p. 19.

³ *At the Back of the Black Man's Mind* (1906), pp. 79-82.

resulted in the recognition of at least two immaterial parts. Of these, one, which does not leave the body during life, is usually connected with one of the vital organs, *e.g.*, with the heart, *mityima*, by the northern Bambala, and with the liver, *m'tim*, by the Babunda. Another element is described as a sort of double which may leave a man when asleep, may visit his friends and have all manner of adventures. Moreover, there is frequently confusion between the spiritual *mityima* or *m'tim* and the viscus which bears the same name; thus, one of Mr. Torday's informants argued that it could not be true that a man's *m'tim* went away when he died, "have dead goats and chickens no livers?" For this information—hitherto unpublished—I am indebted to Messrs. Torday and Joyce from whose writings the following example is taken:—

The Bahuana, inhabiting the banks of the Kwilu, an affluent of the Kasai which itself enters the Congo, say that three elements enter into the composition of man; the body, the "soul" called *bun*, and the "double" called *doshi*. The word *bun* also means "heart."

"The *bun* of a dead man can appear to other men ; the *bun* is seen in human form and appears to be composed of a white misty substance. The *doshi* is a shadowy second self. It leaves the body in sleep and visits other people in dreams; the *doshi* of the dead appears to the living in the same manner. All people have *doshi*, but only the adult have *bun*. Animals have *doshi* but not *bun*. At death the *bun* disappears, no one knows whither; but the *doshi* lingers about in the air, visits its friends and haunts its enemies; it will persecute the relations if the body has not received proper burial. Fetishes have *doshi* but no *bun*; plants and weapons have neither."¹ Similar beliefs are held by the Batetela and Bankutu. The former consist of a number of related tribes spread over the Lubefu and Lukenye basins between 23° and 25° E. The Bankutu are a neighbouring tribe to the west.

"Beside the body, called by the Sungu *dimba*, the Batetela believe that man is composed of two spiritual elements: a shadowy double, called by the Sungu *oloki* and by the Olemba *do*, and a 'soul' (literally, 'heart'), called by the Sungu *idimu*. The 'double' is invisible, except in dreams, it leaves the owner's body without his knowledge, and no harm is caused by its absence. The 'soul' leaves the body only at death. In sleep the 'double' may be absent, but the 'soul' remains with a man as long as he lives. All people, even new-born infants, possess 'souls,' and these are indestructible; neither animals nor plants possess them. The *idimu* of the unburied dead visit their relatives in dreams to remind them of their duties, and, in the same way, the *idimu* of a deceased chief, if it desires anything, is supposed to appear in a dream to the elder who on a former occasion invested the chief with a leopard-skin at his inauguration; the elder so visited informs the village and the wants are supplied.

"Homeless *idimu* remain in the air and haunt the neighbourhood of the village: it happens sometimes on a dark, moonless night, that a man will feel the presence of some being near him; it is impalpable, for he cannot seize it if he tries; this is an *idimu*. It is to provide accommodation for the *idimu* that small huts are built over graves, and a clever device to keep them from wandering at night is to kindle small fires in the huts, for, if this is done, the *idimu* will remain there and warm themselves instead of ranging over the fields."²

¹ "Notes on the Ethnography of the Ba-Huana," *Journal of the Anthropological Institute*, Vol. XXXVI (1906), pp. 290, 291.

² These two paragraphs are from MS, as yet unpublished, lent me by Messrs. Torday and Joyce.

Among the Bankutu the incorporeal part of man is believed to be composed of two elements, a soul, *edimo*, and a shadow *jinjingi*. The latter perishes with the body, but the former is re-incarnated in the first child, boy or girl, born to a sister of the deceased after his death. The *edimo* is evidently the same as the *idimu* of the Sungu and the *eiimo* of the Olemba. The Bankutu, however, seem to regard the continued existence of the *edimo* as in some way bound up with the reception of proper burial, since dead slaves are always eaten but never buried. The reason given for this is that the soul of a slave who had been buried might return and kill the master in revenge for past injuries, whereas, if the body had been eaten he could not do so.¹

Perhaps the greatest development of this doctrine is to be found among the Bambala, the chief sub-tribe of the Bushongo, whose territory lies between the Kasai and Sankuru rivers.

The Bambala say "that man is composed of four parts, the body, *lo*, the double, *ilo*, the soul, *n'shanga*, and the shadow, *lumclume*. At death the *n'shanga* seeks the uterus of a woman and is born again in a child, who may remember things known alone to the former owner of the soul. Some wicked people have a fifth element, *moena*, which leaves the body at death and continues to do evil, causing others to sicken or die ; only the spirits of old men can haunt others."²

Unfortunately not much is said about the powers and actions of the "double" and of the "shadow," but some further information is given about the Eastern Bushongo (Bangongo and Bangendi) who hold that man consists of four parts, the body, *modyo*, the mind, *mophuphu*, the double, *ido*, and the shadow, *edidingi*. A dying man's last breath is also called *mophuphu* and when this, the *ido* and the *edidingi* leave a man he dies (the corpse is supposed not to have a shadow). No harm results from the absence of the *ido* from the body, in fact, it leaves it to appear in dreams.

The authors state that "Ordinarily the soul returns to Jambi [the creator]," but do not indicate which of the constituent elements they regard as the soul.

It will be noted that the instances given have all been drawn from West Africa where the belief is widely spread ; it has not, as far as I know, been found in anything like its typical form in Eastern Africa, nevertheless, the Nilotes have certain beliefs which may be faint reflections of the doctrine, though I do not wish to press this point. The Dinka believe that every human being has within him two souls. The *atiep*, which leaves the body in sleep and whose wanderings are the common source of dreams, resembles, or perhaps may take, the form of the shadow. The second "soul" is by no means so well defined as the *atiep*, it is sometimes called *rol* and sometimes *wé*. I could not learn anything definite about the *rol* during life ; it may be connected with the vegetative functions of the body, but after death it remains with the body in the grave.

The Shilluk recognise two immaterial parts of man called *wéi* and *típo*, the former meaning "breath," or "life," the latter "shadow."

C. G. SELIGMAN.

¹ From the M.S. already cited.

² E. Torday and T. A. Joyce, "Notes Ethnographiques sur les Peuples Communcment appelés Bakuba, ausi que sur les Peuplades Apparentées les Bushongo," in *Documents Ethnographiques concernant les Populations du Congo Belge*. Tome II, Fasc. I. Bruxelles, 1910.

LEADEN TOKENS FROM MEMPHIS.

EGYPT has furnished a considerable number of stamped pieces of lead, in form roughly resembling coins, and clearly belonging to the Graeco-Roman period. So far as my observation goes, these may be divided into the following general classes.

1. *Direct and presumably fraudulent imitations of silver or bronze coins.*—The commonest of these are copies of Ptolemaic bronze coins of the second and first centuries B.C.; others reproduce the issues of towns or rulers outside Egypt of about the same or earlier date. To this class appear to belong a few examples of what may be termed hybrid types, where the designs for the Obverse and Reverse are derived from different localities, but the evident intention has been to produce something which might be taken for a coin. So far as I have been able to examine specimens of this class they are all of Ptolemaic date. One of this class occurs here.

Obv. :—Head of Ammon *r.*

Rev. :—Two eagles standing *l.* : to *r.* cornucopiae. [17 mm.]

This is the only example in the collection of a direct copy of a Ptolemaic coin, probably intended as a forgery; the Reverse should bear the legend **ΠΤΟΛΕΜΑΙΟΥ ΒΑΣΙΛΕΩΣ**, but this cannot be read. The coin copied is one of the commonest of the Ptolemaic series—a copper pentadrachm, usually attributed to Euergetes II or Soter II, but, in my opinion, probably struck under all the kings from about 150 B.C. to about 50 B.C. (cf. *Liverpool Annals*, I, p. 38).

2. *Token-currency of Roman times.*—This class includes a very large number of varieties, the great majority of which are of flat and rather thin fabric, bearing types of the same general kind as those found on the coins of the Alexandrian mint; it would, however, be impossible to regard them as fraudulent copies of these coins, as their shape is quite distinct from that of any of the official issues. I described a considerable collection of pieces of this class, derived from the excavations of Drs. Grenfell and Hunt at Oxyrhynchus, in the *Numismatic Chronicle* for 1908, p. 287; and in that article I stated the conclusion that these leaden tesserae were a token-currency issued locally in various districts of Egypt in the second and third centuries A.D. to supply the need of small change, since the Alexandrian mint had ceased to strike coins of low denomination. This conclusion is supported by all the further evidence which has since come to light; the only additional point to be specially noted is that all the examples whose *provenance* I have been able to trace come from Middle Egypt, with the inclusion of Memphis; and, so far as the types used have any local association, the majority of them belong to the same district.

3. *Another class of tokens, apparently, but of different style.*—These are generally smaller and more dumpy in shape than those of Class 2, and the average of execution is worse; the types used, also, are not so closely related to those of the official Alexandrian coins. So far as my information goes, this dumpy class is mainly found in the Delta; at any rate, it was not represented in the extensive finds at Oxyrhynchus, while more specimens seem to come into the market at Alexandria than at Cairo. The evidence, however, is really insufficient for any definite conclusion; my present presumption is that this class took the place in

the Delta which was held in Middle Egypt by Class 2. It may be added that I am not aware of any leaden tokens having been found in the Thebaid.

4. *Seal impressions*.—These are mentioned here because some examples are described in catalogues with pieces of the three preceding classes. Their resemblance to coins is really accidental, and quite superficial; they are stamped on one face only, the other often showing traces of the object upon which the lead was placed, but it sometimes happens that the lump of lead has approximated in form to a coin. There is no difficulty in distinguishing them from the tokens.

5. *Amulets*.—In some cases amulets were made in the shape of a coin, usually, however, furnished with a loop for suspension; they can readily be distinguished from the ordinary classes of leaden tokens by their types. Conversely, actual coins were sometimes used as amulets, or at any rate carried in the same manner.

The last two classes may be disregarded for present purposes.

In my paper on the Oxyrhynchus tokens I identified a number of specimens as probably local issues of Oxyrhynchus, and at the same time I suggested that further information from the discovery of examples on other sites might make it possible to assign other groups of tokens to their places of issue. The collection made by Prof. Petrie at Memphis, which he has kindly allowed me to examine, throws some useful light on certain groups, especially of Class 2; and it will be convenient to treat these groups separately.

A. MEMPHITE.—The existence of leaden pieces bearing the name of Memphis has long been known, and specimens are not uncommon. To the description of the examples in the Petrie Collection may be added those in Signor Dattari's Catalogue to give an idea of the range of types; the latter will be denoted by their numbers in the catalogue, preceded by D. The descriptions and illustrations of the specimens in the Demetrio Collection given in Feuardent's Catalogue are too sketchy to make identification certain. The figures here are enlarged one half.

The ordinary type of the Memphite leaden tokens is:—

(1) *Obv.*:—Nilus seated *l.* on rocks, drapery round legs, holding in *r.* hand reed, on *l.* arm cornucopiae: facing him, Euthenia standing *r.*, wearing long robe, holding out in *r.* hand wreath: border of dots.

Rev.:—Isis-Hekate standing to front, with triple face, crowned with horns and disk, wearing long robe, holding on *r.* hand uraeus erect: to *r.*, Apis-bull standing *l.*, with disk between horns: above, to *r.*, **MEMΦIC**: border of dots or line. [Petrie Coll.: three specimens, 22–24 mm.]

Feuardent 3596 may be an example of this type.

The Obverse type is one of the regular Alexandrian series. The figure of the triple-faced Isis-Hekate is unusual, though it occurs in statuettes; the Apis-bull is really the standing Memphite type. Dattari describes five specimens which show minor variations, as follows:—

(2) *Obv.*:—As (1): by rocks, crocodile *r.*

Rev.:—As (1), but legend **MEMΦHC**. [Petrie Coll.: 24 mm. D. 6416, 6417: 26 and 24 mm.]

Dattari identifies the female figure on the Obverse as Alexandria, but it seems to me to be more probably intended for Euthenia. He also mentions a serpent in the field behind Euthenia on the Obverse, and another above Apis on the Reverse; these are discernible on some examples, and possibly were originally present on others; but the poor average of preservation makes it difficult to be certain as to small details.

(3) *Obv.*:—As (1).

Rev.:—As (1), but behind Isis a small figure grasping her robe. [D. 6418: 27 mm.]

(4) *Obv.*:—As (1), but Euthenia holds two ears of corn in her *l.* hand.

Rev.:—As (3), with ansate cross between Isis and Apis. [D. 6419: 23 mm.]

(5) *Obv.*:—As (1), with sixteen genii in the field in various altitudes.

Rev.:—As (3), with a figure of Ptah-Sokar-Osiris standing *l.* to *r.* of Apis: legend arranged in two lines **MEM**
ΦΙC. [D. 6420: 28 mm.]

The last mentioned is the only one in which the variations are of material importance; the addition of the sixteen genii, referring to the sixteen cubits rise in the Nile required for a good inundation, is very rare on Alexandrian coins. There is one more piece, of smaller size, with the name of Memphis and generally similar types.

(6) *Obv.*:—As (4).

Rev.:—Isis standing to front, head *r.*, crowned with horns and disk, holding out on *r.* hand uraeus crowned with disk; to *r.*, Apis bull standing *l.*, with disk between horns, on base decked with garlands: between Isis and Apis, a disk; above, to *r.*, **MEMΦΙ.** [D. 6421: 18 mm.]

In addition to the pieces with the name of Memphis, there are others which can certainly be attributed to the same locality, in view of the types used.

(7) *Obv.*:—As (1).

Rev.:—As (1), but without legend: above Apis, small winged figure *l.*, holding out wreath over the head of Isis: border of dots. [Petrie Coll. D. 6492: 24 mm.]

(8) *Obv.*:—As (1), but behind Euthenia a small figure *r.* with hand raised.

Rev.:—As (7), but instead of winged figure, disk and uraei over Apis. [D. 6493: 20 mm.]

(9) *Obv.*:—As (8).

Rev.:—As (7), but above Apis Harpokrates standing holding branch (?). [D. 6494: 20 mm.]

(10) *Obv.*:—Nilus seated *l.* as (1): facing him, Euthenia seated *r.* holding in her *r.* hand ears of corn towards Harpokrates standing *l.*, crowned with *skhent*, *r.* hand to mouth: line border.

Rev.:—Isis seated *r.*, crowned with disk and horns: to *r.*, Apis-bull standing *l.*, with disk between horns: behind Apis, Horus (?) standing *l.*, holding out on *r.* hand small figure of Harpokrates *l.*: above, disk: line border. [D. 6495: 20 mm.]

(11) *Obv.*:—As (10), but Harpokrates holds lotus-flower in *l.* hand.

Rev.:—As (10), but figure behind Apis appears to be Ptah holding out uraeus. [Petrie Coll.: 17 mm. D. 6496: 20 mm.]

(12) *Obv.*:—As (10).

Rev.:—Isis standing to front, with both arms raised, sistrum in *r.* hand. [D. 6497: 20 mm.]

(13) *Obv.*:—As (1).

Rev.:—Sarapis (?) standing *l.*, crowned by Nike *l.*, in field, B: border of dots. [Petrie Coll.: 20 mm.]

(14) *Obv.*:—As (1): beside Nilus, hippopotamus *r.*

Rev.:—Figure seated *r.* with *r.* hand outstretched to Apis-bull standing *l.* on base decked with garlands: in field above Apis, serpent *l.* [D. 6505: 13 mm.]

(15) *Obv.*:—As (1).

Rev.:—Figure (priest?) standing *l.*, holding out in *r.* hand serpent: before him, Apis-bull standing *r.*, with disk between horns: above, to *l.*, crescent: border of dots. [Bibliothèque Nationale, Rostovtsew and Prou No. 677: 18 mm.]

I am not prepared to say to which type Feuardent's No. 3597 belongs: the Obverse is as (1), the Reverse is described as a male figure walking *r.*, leading Apis with *r.* hand, and holding a serpent-staff in *l.* If this description is correct, the Reverse type would appear to associate Asklepios with Apis; this is quite possible at Memphis, where Asklepios was worshipped by the Greeks as identified with Imhotep.

B. OXYRHYNCHITE.—There are in the Petrie Collection a few examples of types found commonly at Oxyrhynchus and described in my article cited above. The presence of such examples is not extraordinary, as the tokens need not have been confined for circulation to the district where they were issued; or they may have drifted after discovery.

The types specially characteristic of Oxyrhynchus are a bust or figure of Athene on the Obverse and a figure of Nike, sometimes with the letters **ΟΞ**, on the reverse. The specimens in the Petrie Collection are of the following types, assigning the numbers as in my previous article:—

(1) *Obv.*:—Bust of Athene *r.*, wearing crested helmet, and draped: rough oval border of thick line.

Rev.:—Nike advancing *l.*, wearing long chiton with diplois, holding out wreath in *r.* hand, in *l.* palm over shoulder: in field to *l.* **ΟΞ**: rough oval border of thick line. [25 × 20 mm.]

(2) *Obv.*:—As last, with border of dots.

Rev.:—As last, without letters in field, and border of dots. [16 mm.]

(4) *Obv.*:—Bust of Athene as (1): in front, spear upright: border of dots.

Rev.:—As (2). [Two specimens: 20 mm.]

(7) *Obv.*:—Athene advancing *r.*, wearing crested helmet, chiton, and peplos, with small shield on *l.* arm and spear raised in *r.* hand, attacking serpent erect *l.* in front of her: border of dots.

Rev.:—As (1), with border of dots. [18 mm.]

(8) *Obv.*:—As last.

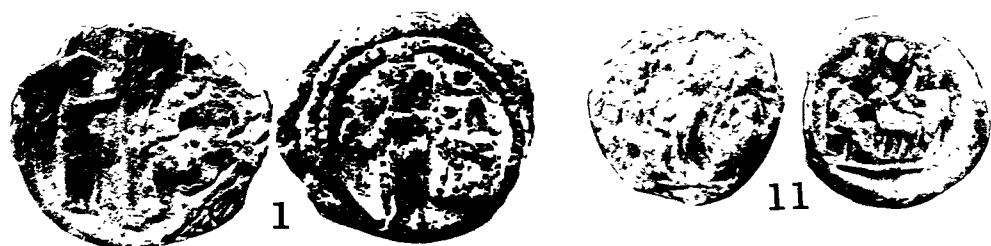
Rev.:—As last, but Nike *r.* [25 mm.]

In this specimen Athene appears to hold a bipennis instead of a spear, which is a variation on the ordinary type.

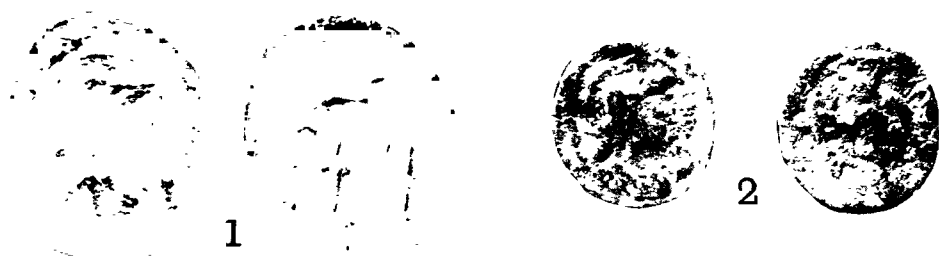
(14) *Obv.*:—Eusebeia standing *l.*, wearing chiton and peplos, holding in *r.* hand patera over altar; in *l.*, cornucopiae: border of dots.

Rev.:—As (2). [Four specimens: one 16 mm., three 15 mm.]

This type, though not distinctively Oxyrhynchite, might, I thought, be assigned to the local issues, on account of the large numbers of specimens—44—found at Oxyrhynchus.



A. MEMPHITE



B. OXYRHYNKHITE

C. HERMOPOLITE (?)—Several specimens, of rather poor style, may be grouped together on the strength of their types. In this group are included:—

(1) *Obv.*:—Hermanubis advancing π , both arms outstretched; to π , caduceus: border of dots.

Rev.:—Hermes-Thoth standing λ , crowned with modius, wearing himation, holding out purse in π hand, caduceus on λ arm; above π hand, ibis π : border of dots. [19 mm.]

(2) *Obv.*:—As (1).

Rev.:—As (1), but without purse, and, apparently, without ibis; below π hand, baboon seated λ . [20 mm.]

To this group belong some pieces in Dattari's Catalogue; 6523, with the same Obverse type as (1) and (2), and for Reverse type a bust of Kronos; 6522, the Obverse of which seems very like the Reverse of (2), with a temple containing two figures on the Reverse: and 6521, the Obverse of which resembles the Reverse of (1), while the Reverse has a nude male figure standing π .

(3) *Obv.*:—Hermanubis standing λ , wearing modius, π hand outstretched, caduceus on λ arm: border of dots.

Rev.:—Male figure standing λ , π hand outstretched over bird; in field above, λ Γ : border of dots. [20 mm.]

This type, like (1) and (2), presumably comes from a centre of the worship of the Graeco-Egyptian Hermanubis, confused with the Egyptian Thoth equated with Hermes. It bears a date, but in style is very much rougher than the ordinary kind of dated tokens which are discussed below. Two other specimens appear to have Hermes types.

(4) *Obv.*:—Hermes standing λ , holding out purse in π hand, resting λ on staff: border of dots.

Rev.:—Nilus reclining λ , holding reed and cornucopiae, drapery over legs; below, crocodile π : border of dots. [19 mm.]

(5) *Obv.*:—As (4).

Rev.:—Euthenia standing λ , wearing modius, holding two ears of corn and cornucopiae: border of dots. [22 mm.]

Dattari's 6480 and 6481 are similar to (4); and in the same group may be included his 6519 and 6520, the Obverse type on both of which is Hermanubis standing π , with a caduceus in front; the Reverse types being respectively Dikaioyne and Tyche standing in the attitudes usual for these personifications on Alexandrian coins. These connect with the next.

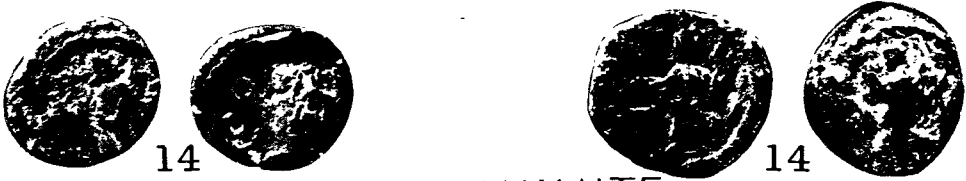
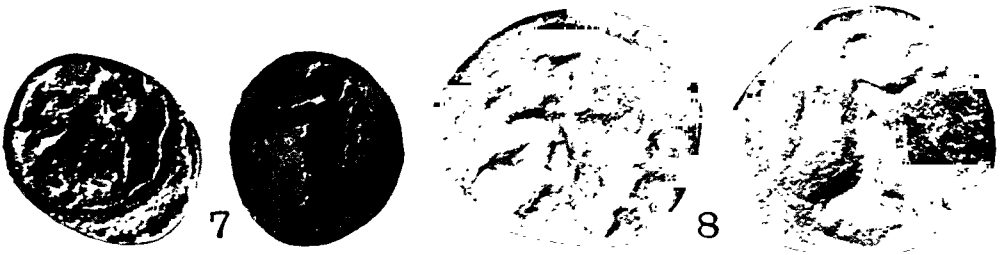
(6) *Obv.*:—Bust of Hermanubis π , wearing modius with lotus-petal in front, and chlamys: by λ shoulder, caduceus: border of dots.

Rev.:—Dikaioyne standing λ , holding scales and cornucopiae: border of dots. [Two specimens: 18 mm.]

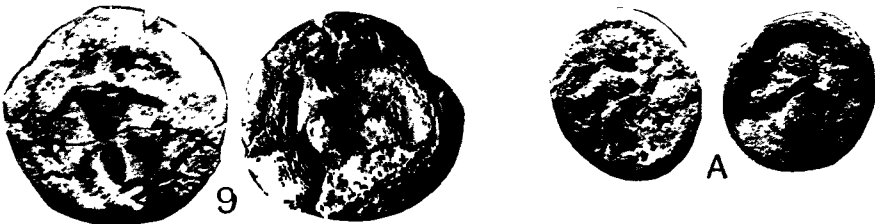
(7) *Obv.*:—Bust of Hermanubis π , with lotus-petal on head; behind shoulder, winged caduceus: border of dots.

Rev.:—Bust of Isis-Demeter π , draped, wearing modius; in front, torch: border of dots. [20 mm.]

The Obverse type of the last two is apparently very similar to that of Dattari's 6478 and 6479, the former of which has on the Reverse a bust of Nilus; the latter, Nilus seated λ , with Euthenia below and four genii in the field.



B. OXYRHYNKHITE



C. HERMOPOLITE

There are two other pieces which may be intended to have representations of Hermes or Hermanubis somewhat similar to (1).

(8) *Obv.*:—Hermes (?) advancing *r.*, with both arms outstretched: to *r.*, vase (?): border of dots.

Rev.: Nilus reclining *l.*, holding reed and cornucopiae: border of dots (?). [23 mm.]

(9) *Obv.*:—Hermes (?) advancing *l.*, with both arms outstretched.

Rev.:—Nilus reclining *r.* [19 mm.]

It seems reasonable to suppose that these tokens, characterised by Hermes-types and of a style which apparently belongs to Middle Egypt, originate from the main centre of the worship of Hermes in that district—Hermopolis Magna (Ashmunên). The original form of the Hermes-cult there was that of Hermes as equated with Thoth; but the Greek Hermes was so generally absorbed into the Alexandrian Hermanubis that the appearance of the latter, who represented a distinct equation of Hermes with Anubis, in a home of the Hermes-Thoth worship is not really unnatural.

Following this clue, two of the specimens in the Bibliothèque Nationale described in Rostovtsew and Prou's Catalogue ("Plombs Antiques de la B.N.," § VIII, in *Revue Numismatique*, 1899) may be added to the Hermopolite group; these are No. 668, with Obverse three-quarter length figure of Nilus reclining *l.*, holding reed and cornucopiae, Reverse baboon seated *l.* with disk on head and caduceus in fore-paws, in field to *r.* **Γ**; and No. 672, with similar Obverse, Reverse, ibis standing *r.* with caduceus in background: in field **L B**¹ Feuardent's No. 3607bis is the same as 672, except that the caduceus is not mentioned in the description. This last is very similar in motive to D(2) below, which may also be Hermopolite.

D. DATED TYPES.—There are a few of the dated tokens, which, as pointed out in my previous article, usually bear types connected with Nilus, and are of rather better style than the majority of these leaden pieces. The specimens here are as follows:—

(1) *Obv.*:—Nilus reclining *l.*, holding reed and cornucopiae, drapery over legs: beneath, crocodile *r.*: border of dots.

Rev.:—Three ears of corn, bound together: in field, **L Δ**: border of dots. [Two specimens: 22 mm.: = D. 6456.]

(2) *Obv.*:—Nilus seated to front, head *l.*, holding reed and cornucopiae, on hippopotamus (?) *r.*: border of dots.

Rev.:—Ibis standing *r.*: in field, **L Ε**: border of dots. [21 mm.]

(3) *Obv.*:—Nilus seated *l.*, holding reed and cornucopiae: before him, Euthenia standing *r.*, holding out crown: border of dots.

Rev.:—Osiris standing *r.*, mummiform, and Isis standing *l.*, with *r.* hand raised and sceptre in *l.*: between, **L B**: border of dots. [19 mm.]

(4) *Obv.*:—Three-quarter length figure of Nilus reclining *l.*, holding reed and cornucopiae: line border.

Rev.:—Head of Zeus Ammon, crowned with disk: in field **L B** (?): line border. [18 mm.]

¹ I have transposed the Obverse and Reverse in Rostovtsew and Prou's descriptions, as it is usual to find the date on the Reverse of Egyptian coins of this period.

(5) *Obv.*:—Bust of Harpokrates (?) *r.*, wearing *hemhem* crown: line border.

Rev.:—Bust of Horus *r.*, wearing *skhent*: in field **L** (?): line border. [19 mm.]

These dated tokens I was formerly inclined to ascribe to Alexandria, in view of the general superiority of their style and the official touch given by the use of a date. They are found sporadically on all Roman sites in Middle Egypt of which I have any information: and, as noted above, the whole class to which they belong may probably be located in Middle Egypt. I should now, therefore, prefer to abandon the ascription to Alexandria, especially as one of those described above (C 3) and the two Paris specimens mentioned at the end of C seem to fall into the Hermopolite group. If those which are of specially good workmanship are to be regarded as coming from any one town in Middle Egypt, I would suggest that this town was probably Antinoë, which, in the period when these tokens were being issued, was the chief centre of art in Egypt outside Alexandria.

The attribution to Antinoë is supported by some specimens in the Bibliothèque Nationale, if Rostovtsew and Prou's identification of the heads on them is correct: they describe Nos. 665-6 as having on Obverse Nilus seated *L* on hippopotamus (compare D (2)), and Reverse two busts confronted, Antinous (?) *L* with crown of disk and plumes, and a female bust *r.* with lotus-flower on head, in field **L B**: and No. 667 with a similar Reverse but without date, and Obverse a male figure seated *L* on a low throne, with sceptre in *r.* hand. Unfortunately Mr. J. de M. Johnson's excavations at Antinoë in 1914 did not throw any clear light on the leaden tokens of that town, as he found that the second and third century mounds, from which evidence on this point might have been derived, had been almost entirely swept away by the *sebakhîn*. Feuardent describes a piece in the Demetrio Collection (No. 1535) which has the ordinary types of the Alexandrian bronze of Antinous—Obverse **ANTINOÖY HPΩOC** and bust of Antinous *L*, Reverse Antinous as Hermes riding *r.* with date **L IΘ**—but in lead, which might be a token of Antinoë, but is more probably a proof of the bronze; the excellence of the style led Feuardent to assume that it was struck in Asia Minor, but this does not seem a convincing argument; the work of the Alexandrian mint in the later years of Hadrian was quite equal to that of Asia.

E. MISCELLANEOUS TYPES OF CLASS 2.—There are a few examples of Class 2 which do not fall into any of the foregoing groups and cannot be assigned to any particular town, but merit description:—

(1) *Obv.*:—Two busts facing (possibly Antoninus Pius *r.*, and M. Aurelius *L*¹): border of dots.

Rev.:—Dikaioyne standing *L*, holding scales and cornucopiae: border of dots. [24 mm.]

(2) *Obv.*:—Nilus reclining *r.*, holding cornucopiae and reed; above, genius *L*, holding out wreath: border of dots.

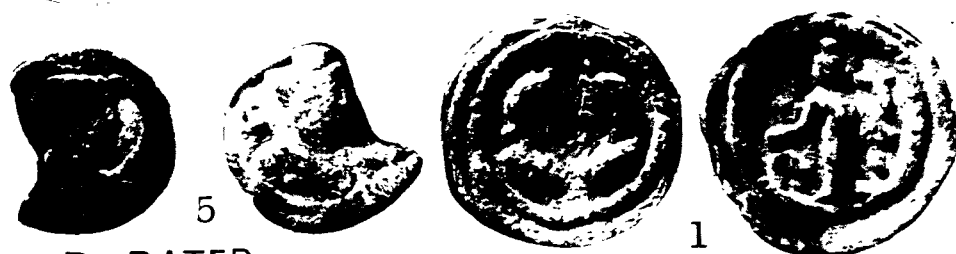
Rev.:—Dikaioyne as (1). [21 mm.]

(3) *Obv.*:—Two figures standing, heads facing (Dioscuri?): line border.

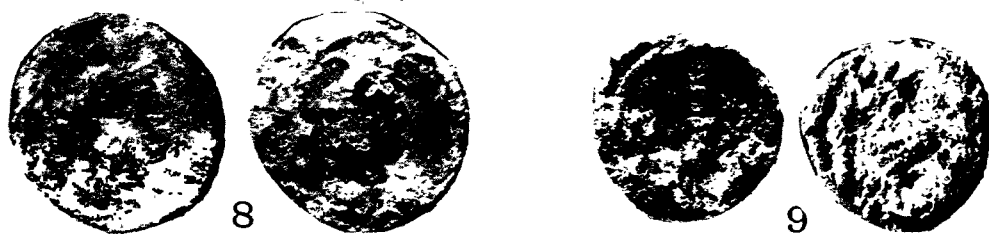
Rev.:—Dikaioyne standing *r.*, holding scales and cornucopiae, and, facing, Homonoia standing *L*, with *r.* hand raised, cornucopiae on *L* arm: line border. [21 mm.]

¹ Prof. Petrie thinks the busts are more probably Hadrian and Antoninus Pius.

- (4) *Obv.*:—As (3).
Rev.:—As (3), but Homonoia ϵ , and Dikaioisyne ζ . [22 mm.]
- (5) *Obv.*:—Two busts facing—Harpokrates (?) wearing *hemhem* crown to ϵ and Sarapis wearing modius to ζ : border of dots.
Rev.:—Nike advancing ζ , holding out wreath: border of dots. [20 mm.]
- (6) *Obv.*:—Roma (?) standing to front, head ζ , wearing helmet and cuirass, holding on ϵ hand Nike ϵ , resting left on spear: border of dots.
Rev.:—Nike advancing ϵ : border of dots. [22 mm.]
- (7) *Obv.*:—Sarapis standing to front, head ϵ , ϵ hand on staff, ζ wrapped in himation: border of dots.
Rev.:—Nike standing ϵ , writing on shield supported on pillar: border of dots. [22 mm.]
- (8) *Obv.*:—Bust of Sarapis ϵ , wearing modius: border of dots.
Rev.:—Bust of Isis ϵ , crowned with disk and horns: border of dots. [19 mm.]
- (9) *Obv.*:—Isis seated ϵ , holding up lotus-flower in ζ hand; before her, Harpokrates standing ζ , crowned with *skhent*, ϵ hand to mouth: line border.
Rev.:—Illegible. [18 mm.]
- (10) *Obv.*:—Isis, crowned with disk and horns, seated ϵ on rocks.
Rev.:—Harporis (?) standing ζ , bearded (?), holding hawk on ϵ hand, club on ζ arm. [14 mm.]
- (11) *Obv.*:—Nilus reclining ζ , holding reed and cornucopiae: border of dots.
Rev.:—Harpokrates (?) standing ϵ , wearing modius and himation, ϵ hand raised, club (?) in ζ : border of dots. [18 mm.]
- (12) *Obv.*:—Nilus reclining ζ : below, crocodile ϵ : line border.
Rev.:—Bes (?) standing to front: line border. [17 mm.]
- (13) *Obv.*:—Female bust ϵ , draped: traces of letters round: border of dots.
Rev.:—Nilus reclining ζ , holding cornucopiae and reed: border of dots. [Two specimens: 24 and 18 mm.]
- (14) *Obv.*:—Nilus seated ζ on rocks, holding reed and cornucopiae, drapery over legs and ζ arm.
Rev.:—Euthenia reclining ζ , holding out ears of corn: ζ elbow resting on sphinx ϵ . [29 mm.]
- (15) *Obv.*:—Bird standing ϵ : border of dots.
Rev.:—Winged genius advancing ζ , nude, stooping with ϵ hand outstretched over bird: border of dots. [Seven specimens: 12–14 mm.]
- The last of the above-mentioned types approaches in workmanship to Class 3: it is rough and clumsy, so much so that it is difficult to say what particular species of bird is intended to be represented on the Obverse: on some specimens it resembles a goose, on others it is more like an ibis. Judging from the number of examples, the piece should originate from some place near Memphis.
- (16) *Obv.*:—Hawk-headed divinity standing ζ , wearing *skhent* (?) and cuirass, holding out on ϵ hand hawk ϵ , resting ζ on spear: before him, on ground, serpent erect ϵ : border of dots and inner circle of line.
Rev.:—Shrine (?), within which hawk ζ (?). [28 mm.]



D. DATED



This type is Dattari's 6433 (Pl. XXXVI). As he points out, the Obverse type is that of the Sethroite Nome: and, if the piece is to be ascribed to that nome, we have here an example coming from the Delta which is not of the fabric of Class 3. It is, however, rather unlike any of the other tokens of Class 2 in style, and may represent the issues of the extreme east of the Delta.

(17) *Obv.* :—Nilus seated *L.*, holding reed and cornucopiae: border of dots.

Rev. :—Sarapis standing to front, *r.* hand raised, short staff in *L.*: border of dots. [20 mm.]

This appears to be the same as Dattari's No. 6482. Dattari describes the Reverse type as Helios, with head radiate. If this is correct—the condition of the present specimen makes it impossible to say with certainty—the figure is probably intended for Helios-Sarapis; the attitude is a characteristic one for Sarapis on third century Alexandrian coins. This piece was obtained at Hawara.

F. CLASS 3.—If the assumption that Class 3 comes from the Delta is correct, it is natural that this class should not be extensively represented in a collection formed at Memphis. As a matter of fact, only two types occur, though each of these furnishes a considerable number of examples.

(1) *Obv.* :—Helmeted head *r.*

Rev. :—(a) Helmeted head *L.* [Four specimens: 11–13 mm.]

(b) Helmeted head *r.* [Five specimens: 11–13 mm.]

The execution of most of these specimens is bad: on the better examples the helmet on the Obverse seems to be of the crested Athenian form, that on the Reverse Corinthian: but it is impossible to speak with certainty as to the intentions of the artist. On one or two specimens there is an attempt at a border of dots.

(2) *Obv.* :—Head and neck of horse *r.*

Rev. :—Forepart of horse *r.* [Eleven specimens: 13–17 mm.]

The workmanship shown in pieces of this type is even worse on the average than in (1), and is in most cases simply barbarous. Two examples are fairly clear: and on these there are borders of dots round the types. The rest are of various degrees of badness, the worst being so debased that it would be hopeless to guess what object was intended to be depicted if less degraded specimens were not available for comparison.

It may be remarked, in connexion with this class, that in my previous paper I ascribed to Hermopolis Magna a token with the types of head of Zeus Ammon and baboon squatting *r.* This is distinctly of Class 3 in style, and quite unlike any of the tokens grouped above as belonging to Hermopolis Magna. I am now therefore inclined to suggest that it should be attributed to the Delta town of Hermopolis Parva.

G. CLASS 1.—Besides the one direct copy of a current coin in the collection there are some interesting examples of what I have called hybrid types. Such are:—

(1) *Obv.* :—Radiate head of Helios (?) to front.

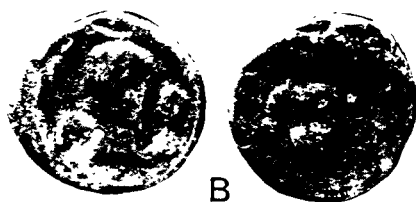
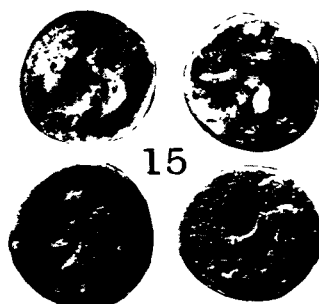
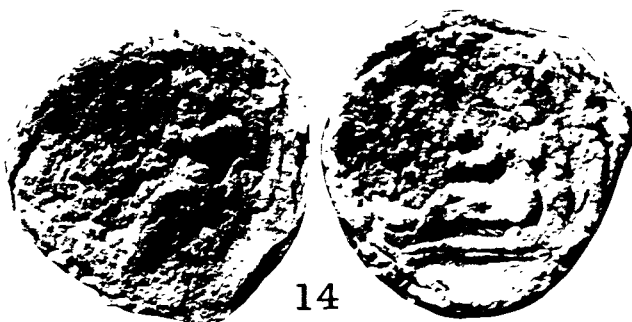
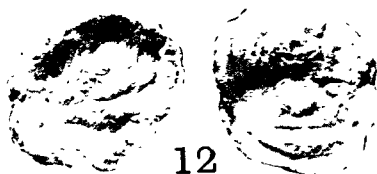
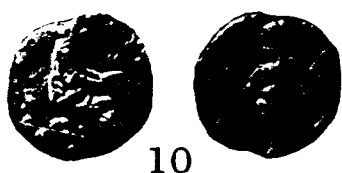
Rev. :—Bee (in sunk circular field). [15 mm.]

Both Obverse and Reverse types in this case suggest Asiatic origin; the Obverse is presumably from Rhodes, the Reverse Ephesian.

(2) *Obv.* :—Turreted female head *r.*, in wreath.

Rev. :—Stag (?) standing *r.*, looking back. [16 mm.]

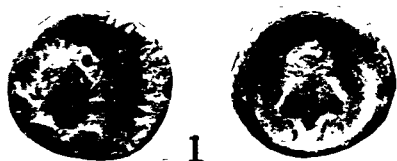
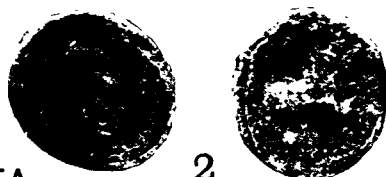
The Reverse type here is again probably Ephesian; the Obverse may be derived from Smyrna.



E. MISCELLANEOUS



F. DELTA



G. HYBRID TYPES



(3) *Obv.* :—Head of griffin *r.*

Rev. :—Prow. [10 mm.]

The types of this specimen are both found in many Greek cities ; if the Ionian relationships of (1) and (2) are to be sought in (3) as well, the Obverse type may come from Phocaea and the Reverse from Samos.

(4) *Obv.* :—Head wearing elephant-skin cap *r.*

Rev. :—Eagle's head *l.* : border of dots. [16 mm.]

The devices used in this case are both Ptolemaic, although the Reverse type does not occur on Ptolemaic coins.

(5) *Obv.* :—Female head *r.*

Rev. :—Cornucopiae. [Two specimens : 17 and 13 mm.]

The head on these pieces might be a rough copy of that of one of the Ptolemaic queens, on whose silver coins the cornucopiae is a frequent Reverse type.

(6) *Obv.* :—Nude male figure kneeling *r.* (Atlas ?).

Rev. :—Effaced. [18 mm.]

(7) *Obv.* :—Snake-footed figure *l.*, with *l.* hand raised.

Rev. :— ? [Two specimens : 20 and 17 mm.]

The Obverse types of (6) and (7) are distinctly Greek in conception, though I do not recall their occurrence on coins. The Reverse type of (7) is very obscure : it seems to be a confused copy of some group of objects, for which I cannot suggest an interpretation.

(8) *Obv.* :—Head (?) *r.*

Rev. :—Dolphin *r.* [14 mm.]

(9) *Obv.* :—Hippopotamus (?) *l.*

Rev. :—Sphinx seated *r.*, with *r.* paw raised : in circular incuse. [16 mm.]

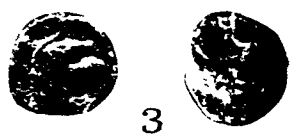
The last is in fabric unlike any others of this class, and I should be inclined to regard it as an amulet rather than as a token.

I have to thank Prof. Petrie for the opportunity of studying and publishing these pieces. It is to be hoped that further collections from ascertained localities will enable more certain identifications of the origin and purpose of the various classes to be reached.

J. G. MILNE.

A few which were not sufficiently distinct for description are here added, distinguished by letters. A seems to be a variant of C (5). B and C, by the type of the head, are apparently from the same hand as E (8) and E (13). F is of bronze, but evidently not of any regular coin fabric. The ram has an indistinct object over it ; after clearing, the other side shows a helmeted head. G shows a helmeted head, H a head of Medusa. The Reverse type of K is a figure in a cloak leaning on a staff. L is fairly sharp but entirely unintelligible.

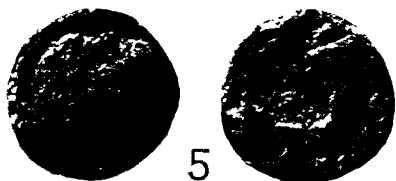
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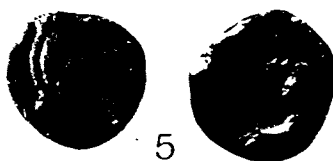
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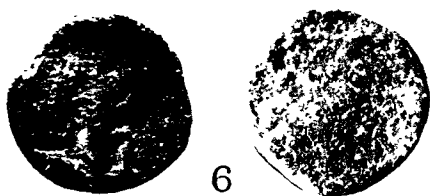
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5



5



6



7



8



9

G. HYBRID TYPES



D



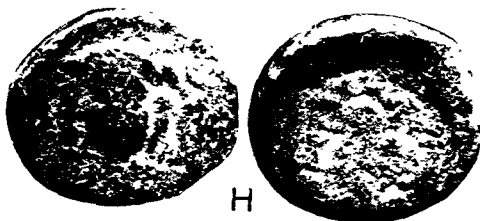
E



F



G



H



J



K



L

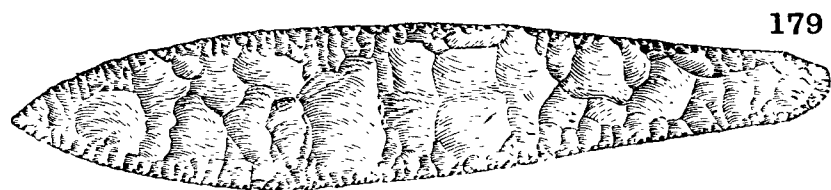
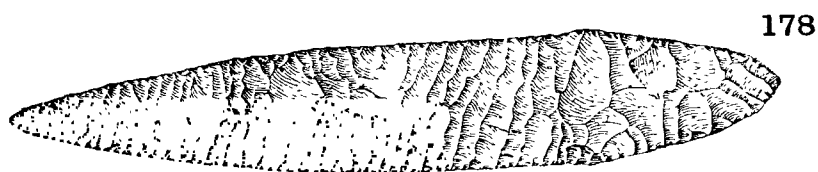
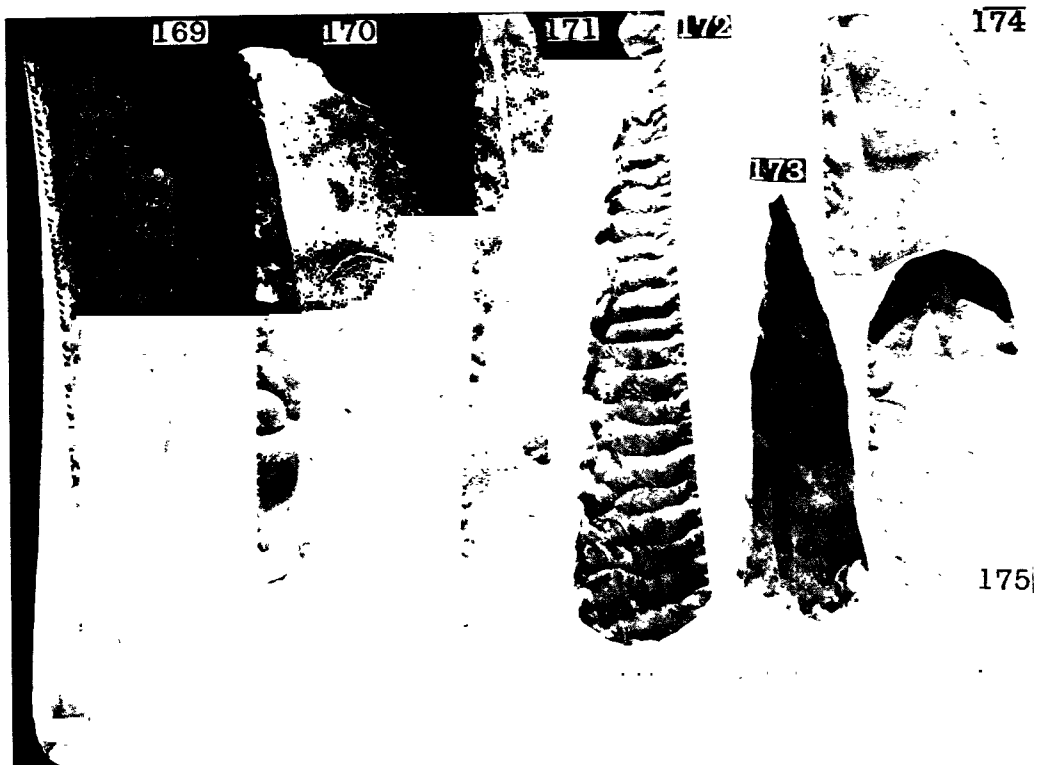
THE STONE AGE IN EGYPT.

(Continued.)

RESUMING the subject already treated on pp. 59 to 77 of our last number, we now touch the well-defined period of the prehistoric graves of Egypt. The Egyptian record places the close of this at about 5500 B.C.; and, looking at the proportion which the number of graves bears to those of historic ages, it seems that the rise of that civilisation is not likely to have been later than 8000 B.C. The main point to be observed is the close connection with the Magdalenian cave products, and the finest Danish work, suggesting that we may find some synchronism. One of the most characteristic forms is the large three-faced blade 169, 170. Such a blade usually has a considerable wind, or twist, in the plane of it, and this had to be removed by detailed flaking before a truly flat blade could be formed, as a basis for the remarkably thin flat knives, such as 176, 177. On 169 the edge has been partly flaked; the snubbing due to scraping always makes an edge much steeper, but this flaking reaches far back in the direction of the face. The back edge has been elaborately worked in a cris-cross pattern, which is a marked feature in the decoration of Danish flints, as 181. This is so purely an artistic feature, and so far removed from anything naturally suggested by flint fractures, that we can hardly avoid granting a connection of descent between the two. On the back edges of 170, 171, there is a mere snubbing due to scraping; and 172, with a cris-cross edge the whole length of it, has been a large blade with fine ripple pattern on the face (like the Danish 178, M., 349), but it has been so greatly snubbed down by right-handed scraping that it is reduced to a point. In other cases a fine thin blade, with ripple-flaking on both sides, has been snubbed down by right-handed scraping in all four ways, until it is less than half its original breadth. 173 is put here to show the form of the back of 172; it is the remaining butt of a flake like 169, after the whole of the upper part has been snubbed away. 174 is the top end of a similar blade with snubbing begun, and 175 is a similar butt end turned the other way up to show the detail of the flaking. Thus the whole of this row are varieties of treatment of the same kind of flake.

Another close link with the Danish is in the vague surface-flaking or scaling on 176 and 177, like the forms 179 (Denmark, M., 350) and 180 (Seine, M., 353). The dates of the Egyptian examples may not only be given in a general period, but many of them dated more closely by sequence dates. The whole period of the prehistoric cemeteries is divided into fifty parts, numbered 30 to 79, which last touches the beginning of the 1st dynasty (*Tarkhan*, I, 3). In this dating Nos. 170 and 171 are between 34 and 38 S.D.; 174 is of 46 S.D.; 175 of 43 S.D.; 176-7 are of 52 S.D. No. 181 is from Denmark (*Nordiske Fortidsminder*, IV, Pl. XXVI).

A striking resemblance is that of the coarse flakes which abound in the prehistoric graves (182-184) to the Magdalenian cave type (185-188, M., 134-5-9-7). The slight waviness of outline, the proportions of the flake, the slight end chipping, are all so closely alike, that they could hardly be sorted apart if mixed. These three flakes are of S.D. 32 to 48, 61, and 70. The flakes 189 to 194 are of sequence



dates 34 to 46, 47 to 50, 56, 58, 61 and 63 respectively. They are given to show how snubbing of the edge, by scraping, is closely like what is characteristic of Aurignacian flints in Europe, as in 195 (S., Fig. 53), 196 (S., xxxiii) and 197 (S., xvii), all of early Aurignacian age. This is a striking example of the recurrence of a utility type, produced merely from similar necessities, without any artistic design.

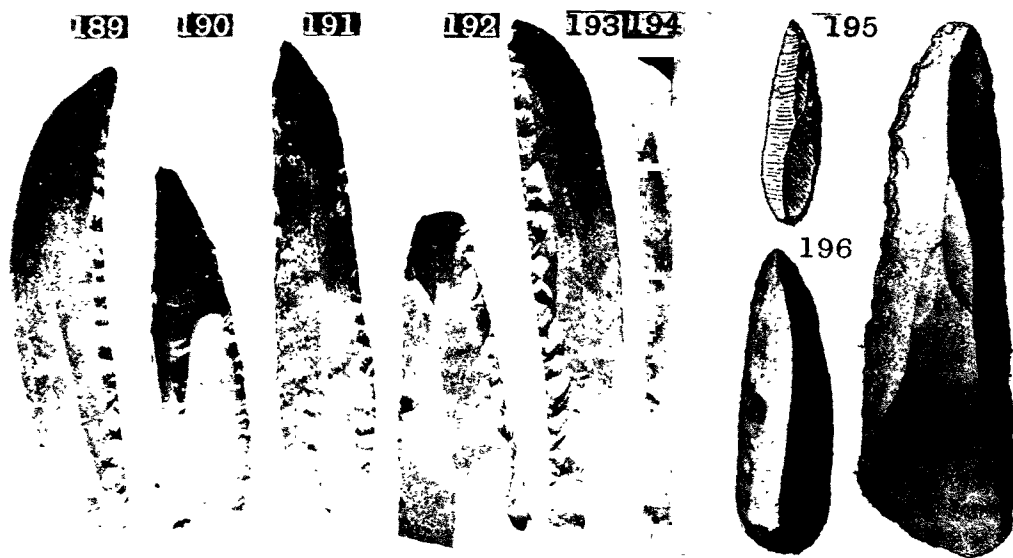
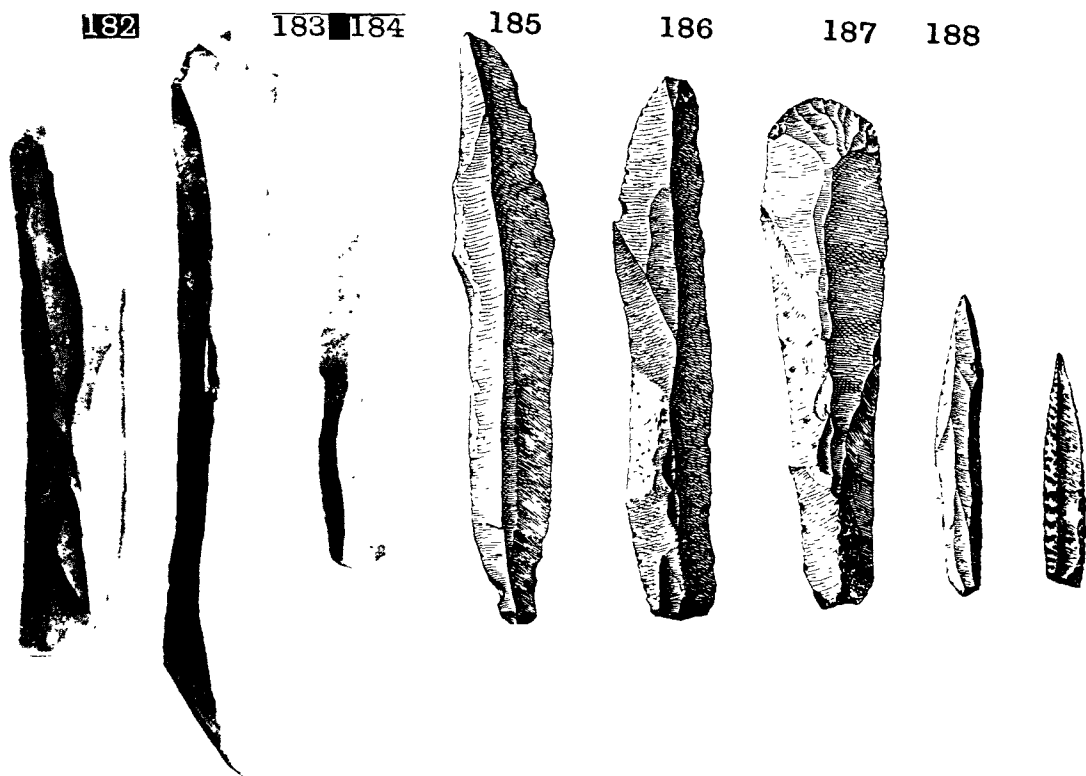
Touching on the beginning of historic times, there is a curious type found in the lowest levels of the town of Abydos, No. 198. The teeth are too fragile to saw any material; but the explanation was given by seeing an iron scraper of just this form used by Neapolitans for scraping off scales from fish. The type 199-201 is well fixed in date to the earlier half of the Ist dynasty; the first two are from the tomb of Zer, the third, worse made, from the tomb of Zet, and they steadily deteriorate to the end of the dynasty, and become flat-ended in the IInd dynasty (*Abydos*, I, xiv, xv. Yet the French example, 202, absolutely the same in detail, comes from the Grotte de l'Église (M., 120, and therefore should be of the Solutrean age, which we know by the Fayum flints is before prehistoric graves. The only explanation seems to lie in the chance of this belonging to a higher level of later date than the rest of the Grotte.

The arrow heads of the Ist dynasty, 203-205, are from the tomb of Aha, at the beginning of that dynasty, most nearly like a type from the Gironde, 206 (M., 378). The general subject of the history of flint-work in the prehistoric cemeteries and historic time is not dealt with here, but only so far as it is related to Europe.

We can now see how many questions are raised, and how much can be linked together, by the comparison of Egyptian and European types. Most of the Egyptian are so closely like the European that a presumption must be allowed of a general equivalence in age, yet some cases show clearly a repetition, such as the Aurignacian resemblances. How far may we in the later periods venture on a close synchronism? The Magdalenian flint types in Egypt are associated with bone harpoons, which are also of that age in Europe. The historic Egyptian kept up the harpoon as a weapon of sport, but only used by the higher classes and not in business fishing; much as archery is kept up as a sport in England, long after fire-arms are used for real fighting. For actual use we only find the bone harpoon from S.D. 38-57, and the copper harpoon from 34 to 61 S.D. (Naqadeh, El-Amrah, Gerzeh). This Magdalenian weapon therefore belongs to the first and part of the second prehistoric civilisation, say 8000-6000 B.C. Not a single example was found in the two thousand graves of the Ist dynasty age at Tarkhan.

This raises the question whether it will be possible to extend the Magdalenian cave period as late as the Egyptian graves, of about 7000 B.C., or to trace a descent of the type to a later time. This connection is an additional reason for keeping to the Egyptian chronology, and not adopting the arbitrary theories of Berlin which would bring down these Magdalenian types to about 3500 B.C.

Another serious European question is the synchronism of the finest Danish work with the same age. The details of regular parallel ripple-flaking, of scale-flaking, and above all of criss-cross ornamentation, are so closely alike in Egypt and Denmark, and so absent in intervening countries, that we may almost suppose that they were brought by two branches of the same race from some common source. Generally, these fine works in Europe would be placed much later than the Magdalenian age, bordering on the use of copper; so there would probably be no objection to dating the Danish work to 7000-6000 B.C., like the Egyptian.



FLAKES FROM PREHISTORIC EGYPTIAN GRAVES; WITH MAGDALENIAN AND AURIGNACIAN.

In concluding the comparisons of flint-working in Egypt and Europe, the only reasonable view to follow seems to lie in the distinction between artistic and utility types. While, on the one hand, it would be contrary to all the history of artistic development to assign Chellean flints to a late period, on the other hand, the mere results of use and requirements of daily life may easily produce like effects, if the materials and habits are similar.

Having now reviewed the principal types of flint-work found in Egypt, it is needful to state, as briefly as we can, the relation between those types as found in Europe, and the physical conditions which were contemporary with them. But, entering on this subject, we experience the strong currents of different opinions among geologists as to the glacial periods. As it is impossible to handle so complex a subject as a by-issue, I can but say that, as in earlier ages the distribution of animals shows great changes of land and sea to have occurred, as, also, the submerged river channels along the American coast prove such large changes of level to have been geologically late, and, as beds of tertiary plants prove great changes of climate to have occurred—so, from such evidence, we are assured that there is no improbability in the changes traced in the glacial periods. As such changes occurred at other times, we need no overwhelming evidence to credit them within the last million years. The evidence that is described, as by the last work of the late Dr. James Geikie, *The Antiquity of Man in Europe* (1914), appears quite sufficient to show that the earlier extent of changes was carried on into the ages in question. As Dr. Geikie kindly replied on any points that were not clear to me, the Table here may be taken as giving the results in accord with a principal authority. The degree of precision of the results varies a good deal, as we shall state below.

At first it might be supposed that the fluctuations of glacial periods were peculiar to recent times; but it is only from recent times that we have wide-spread land surfaces for study. Of all the earlier ages we know hardly anything but sea- or lake-deposits, with scarcely any old land surface visible except in a short section. Hence, we cannot expect to find earlier evidence like that which we have on our present earth surface. The questions of the extent of the ice sheet do not, however, at all affect the relations with Egypt, with which we are here concerned. Only the changes of sea-level in Europe are here involved.

Such changes of climate and of elevation are termed now Glacial and Inter-glacial, from the fact of traces of ice action giving us the plainest evidences. But we cannot suppose that such fluctuations at the freezing limit were not accompanied by similar changes in other parts. It is recognised that the elevation and depression of Gibraltar is to be connected with similar movements in France, England, and the Baltic. If these changes took place at Gibraltar, they probably may also be found a little farther south, in Egypt; and as similar changes of level and of climate have been traced out by Blanckenhorn in Palestine, it is, therefore, to be expected that the movements should be equally found in Egypt.

It has been usual to speak of elevation and depression of the land; but it is absurd to suppose an equal earth movement of one-tenth of a mile vertical over 2,000 miles from Gibraltar to Norway. It appears, therefore, that the truer terms are fall and rise of sea-level, probably due to displacement of the earth's centre of gravity. The active causes we cannot discuss here.

The changes are traced by various evidences. There is the ploughing out of valleys by ice below their tributaries, and the banks of *débris* carried by glaciers, and left as moraines or erratic blocks. There are the scratches and grooves left

on rock surfaces by the cutting of stones bedded in the ice. There are the levels of glacier action on the mountains, and the raised beaches along the coasts. There are the submarine valleys and plateaus showing old land surfaces. There are the deposits of Arctic or southern plants, and bones of animals, showing the temperature; also the forest beds now submerged. From such facts, the meaning of which seems trivial until they are united, the history of the changes of the last million, or so, of years has gradually been pieced together. At present any single fact of the kind has a greatly enhanced value to us, as it either fits into place in the scheme already laid out, or else adds some fresh feature.

DATES.	PERIOD.	SEA LEVEL, FEET.	TEMPERATURE, FAH.	CONDITIONS AND HUMAN WORK.	GEOLOGIC STAGES.
	6th Glacial	- 30	-	Small Glaciers	Daun. Upper Turb.
	5th Inter G.	-	{ Forest 1500 ft. up } - 5	Wider coasts	Up. Forestian.
	5th Glacial	+ 50	-	Considerable Glaciers	Gschnitz. Low Turbarian.
	4th Inter G.	-		{ Britain Continental Great Baltic Lake Neolithic (with <i>Asian</i>)	Low. Forestian.
- 20,000 Max.	4th Glacial	+ 130	{ Arctic plants Thames } - 20	Great Baltic Glacier Intermediate { <i>Magdalenian</i> <i>Solutrean</i> <i>Aurignacian</i>	{ Buhl. Mecklenburg. Würmian.
- 80,000	3rd Inter G.	- 200	Southern Mammals } + 15	Britain Continental Land far in Atlantic	Duntemian.
180,000	3rd Glacial	+ 700	- 30°	{ Gibraltar upper breccia Ice sheet in N.W. Europe N. and mid-Britain submerged Before coldest <i>Mousterian</i> Torrents cut Gib. breccias	{ Polonian. Rissian.
400,000	2nd Inter G.	- 600	Southern Mammals } + 20	{ North Sea, dry Britain Continental, cooler Spain wide in Mediterranean Gibraltar lower breccia Maximum glaciation	{ <i>Acheulan</i> <i>Chellean</i> warmest Tyrolean.
600,000	2nd Glacial	- 900	- 30°	Ice { 3500 ft., Scotland 2800 ft., S. Jutland	{ Saxonian. Mindelian.
700,000	1st Inter G.	- 200	Southern Mammals } + 10	Arctic plants in Norfolk Earliest man of <i>Heidelberg</i>	{ Forest Bed. Norfolkian.
	1st Glacial Pleistocene.	+ 300	- 13°	Snow line 4000 ft. below now	{ Scanian. Gunzian.
	Pliocene		+ 20°	Wholly Arctic in N. Sea Gradually cooling South molluscs in N. Sea.	

The Table states first the date of each period. This is but a very vague approximation, gleaned from the changes which went on, and it is probably a minimum. The periods may have been much longer, they are unlikely to have been shorter. At least such dates give some sense of reality and proportion, though they cannot be taken as definite statements. The names of the periods are only applied for convenience, beginning as far back as the series of changes

can be continuously traced. The levels in feet show the movement of the sea, — down, or + upward, from the present level; the later rises of the sea are well fixed by the raised beaches, but the earlier amounts depend on extent of submerged land surfaces, limits of ice action, and changes which only give an approximation; the amounts are rather vague, but they at least show the kind of movements involved. The temperature, above or below the present, is gleaned from statements of the downward limits of snow and ice, and upward limit of forest growth, on the scale of 300 feet of elevation to 1° Fah. Also from the the presence of Arctic plants, or of southern mammals; and from the present temperature of places formerly at the edge of the ice sheet. The conditions and human work are fully stated by Dr. Geikie, and connected with the names of the geologic stages. With these explanations the reader will be guarded against assuming exactness for the amounts stated, which are only approximate and relative. Abbreviations in the last column are used, as Daun., for Daunian; Upper Turb., for Turbarian.

In Egypt there has not been any serious study of the changes of level which the country has undergone in recent periods. The following notes are only some points which have caught my notice while doing other work; they are given here without the least claim for completeness or precision, and merely indicate what is waiting to be recorded. By putting such a statement together it will be better seen what meaning any other such facts may have, and what are the crucial evidences that should be specially sought for in future.

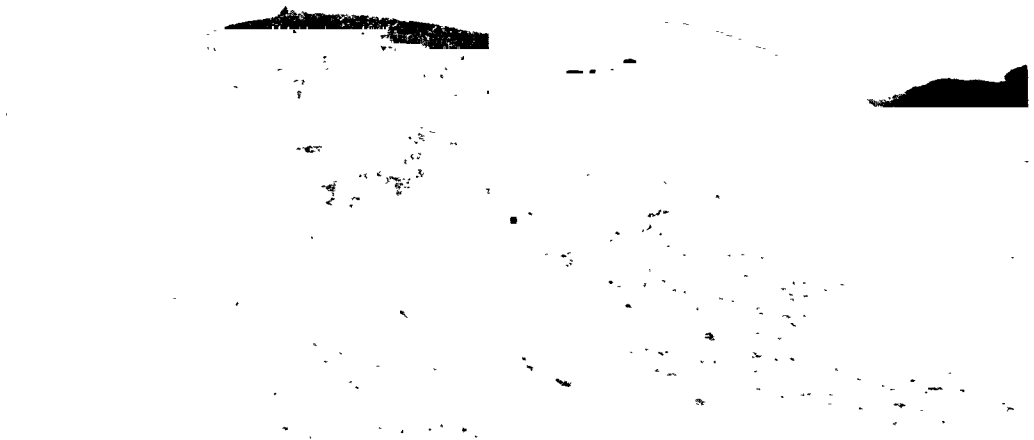
To begin with, the levels above sea should be stated for the Nile Plain at the various places to which we may refer, as such have to be added to cliff heights, in order to see the relation to sea level. Sea = 0, *Cairo* 65 feet, *Minieh* 114 feet, *Beni Hasan* 117 feet, *Tell Amarna* 129 feet, *Siut* 147 feet, *Sohag* 177 feet, *Naqadeh* 230 feet, *Lugsor* 250 feet, *Esneh* 260 feet. The italic names are measured levels, with others fitted in by proportionate distance.

The earliest stage we can observe is the heavy denudation of the Eocene limestone plateau, shown by hillocks of crystalline calcite standing up on the top surface. These must have been formed at a considerable depth by solution and deposition; since then, the higher and surrounding strata have all been removed, exposing the less soluble crystalline calcite. The great rainfall is also shown by the collapse of immense caverns. At *Tell Amarna* I have traced a sudden dip of strata of fully 200 feet vertical, which implies, probably, a greater height of cavern below it, filled up with fallen blocks. All along the Nile cliffs there may be seen at intervals, in the miles of perfectly even strata, large collapses of some hundreds of yards in length. Such features imply the existence of great caverns, the discharge of which must have been at least 300 feet below the present Nile level; this, therefore, implies an original gorge of the Nile, and sea level, as much lower. This must be put as over 300 feet.

After all this was consolidated, and the fallen strata cemented into a solid mass by infiltration and breccia, the Nile valley was widened so as to cut a clean section through the collapsed strata. This shows that a great rainfall still continued in the land. Two stages of this early period are seen in 207, 208. In 208 the denudation of the surfaces is seen as a wide, gently sloping valley of very long and gradual denudation. The slope on the left is sharply broken away by a much later valley, of which a view is given in 207. Yet this later valley—of the Tombs of the Kings—belongs to the period of erosion before the changes which we next consider.

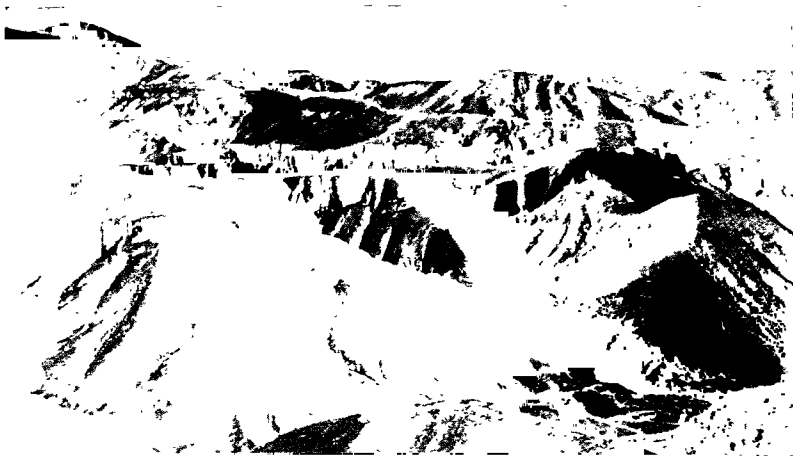
After this erosion of deep valleys, like 207, a rise of the sea then followed, during which the Nile valley was an estuary; rolled gravels and fragments were

deposited as high up as 400 feet, or more, above the plain at Thebes. This is shown by the level silting up of the Valley of the Tombs of the Kings. In 209 the level line of filling is very clear; above it the hard limestone ridges rise like islands, below it the channels have been trenched out by later rainfall. Another view, higher up the valley, 212, shows this also—from side to side of the whole view the level line of silting up is clearly seen. An attempt has been made to attribute this to ponding of the Nile by banks of detritus lower down. But as there are



207. PRECIPITOUS VALLEY (OF KINGS), CUT THROUGH OLDER DENUDATION OF SURFACE.

208. OLDER DENUDATION VALLEY, CUT AWAY ON LEFT BY PRECIPITOUS VALLEY.



209. ABOVE, LIMESTONE CLIFFS AND SLOPES.
MIDDLE, LEVEL TOP OF ESTUARINE FILLING BY DÉBRIS.
BELOW, SLOPES OF VALLIES, SCoured OUT THROUGH DÉBRIS.

marine deposits in the Nile valley known as far south as Asyut, it is certain that there has been an estuary since the present erosion of the Nile valley. An attempt has been made to attribute this valley-filling to aerial denudation, but the uniform flat land of the top is against a dust-and-torrent filling, as also is the rounded and rolled state of the *débris* and the stratification of it. As there are also indubitable evidences of the high water level in other parts of the Nile valley—as noticed below—there is no object in straining to avoid the conclusion here. The rainfall which produced the detritus of this filling material must have been enormous,

as the catchment area is only six or eight square miles, entirely bounded by far larger valleys on each side. This deposit implies a depression of about 650 feet.

The great beds of gravel with boulders on the top of the hills at the mouth of the Fayum, about 400 feet over the sea, are perhaps of this age.

After this came a fall of the sea to at least as low as the present level. This is proved by the rain which fell on the small area of the Valley of the Kings, ploughing out a wide and deep course through the mass of gravel and detritus



210. STACK OF DÉBRIS, LEFT BEHIND FROM THE ESTUARINE FILLING OF THE KINGS' TOMBS VALLEY.

laid down in the previous period. This is finely shown by the precipitous stacks of detritus, as seen in 210, which remain standing in the valley. How much the sea fell below the present level we cannot say.



211. BED OF INDURATED GRAVEL, FILLING GULLY IN TOP OF LIMESTONE CLIFF, SOHAG.

Next, there was a great rise of sea. At Sohag on the top of the cliffs, about 600 feet high, are patches of rolled gravels, shown in 211. These extend up to the

edge of the cliffs, filling gullies in the rock surface. The rock unprotected by the gravel is not in the least weathered back from the line of the face covered by the gravel. There does not seem to have been the smallest weathering of the rock faces since the gravel was laid down. It is, therefore, impossible to refer this gravel to the previous rise of sea, after which there has been heavy rainfall. The whole height of the Nile valley must have been filled at the side with gravel and silt for it to be possible to lay down rolled gravel along the edge of a cliff. To this same rise of sea level belong little patches of stratified silt, seen clinging to the rock gullies at the top of the cliffs at Tell Amarna. The Sohag gravel is at about 800 feet over sea, the Tell Amarna silt at about 500 feet. Since then there has been no rock-weathering and very little rain.



212. ABOVE, DENUED LIMESTONE CLIFFS AND SLOPES, FORMER ISLANDS.
HORIZON, LEVEL LINE OF TOP OF ESTUARINE FILLING.
BELOW, VALLEY CUT THROUGH DÉBRIS FILLING.

Probably of the same age are the great banks of *débris* washed out of the side valleys, and deposited always on the down-stream side in the Nile valley. Such banks could only be formed under water when heavy rains were deepening the side valleys. The banks are well seen at Beni Hasan, where they rise to about 300 or 400 feet over present sea. If searched for, doubtless they could be traced in most districts, as I have often noticed them. Probably also of this age are the gravel beds at the mouth of the Valley of the Kings, where Pitt-Rivers first found Egyptian worked flints in position. They can hardly belong to the first filling of the valley as no trace of worked flint has been discoverable in that filling.

After this there has been a fall of the sea to the present level, and the Nile current, with a little rainfall, has washed away the later filling of the Nile valley. Though there is some thirty or forty feet of Nile mud deposit in the Nile valley, this does not extend in the Delta below the present sea level. The rise of land level by silting up the bed of the valley seems to have raised it all along, and at

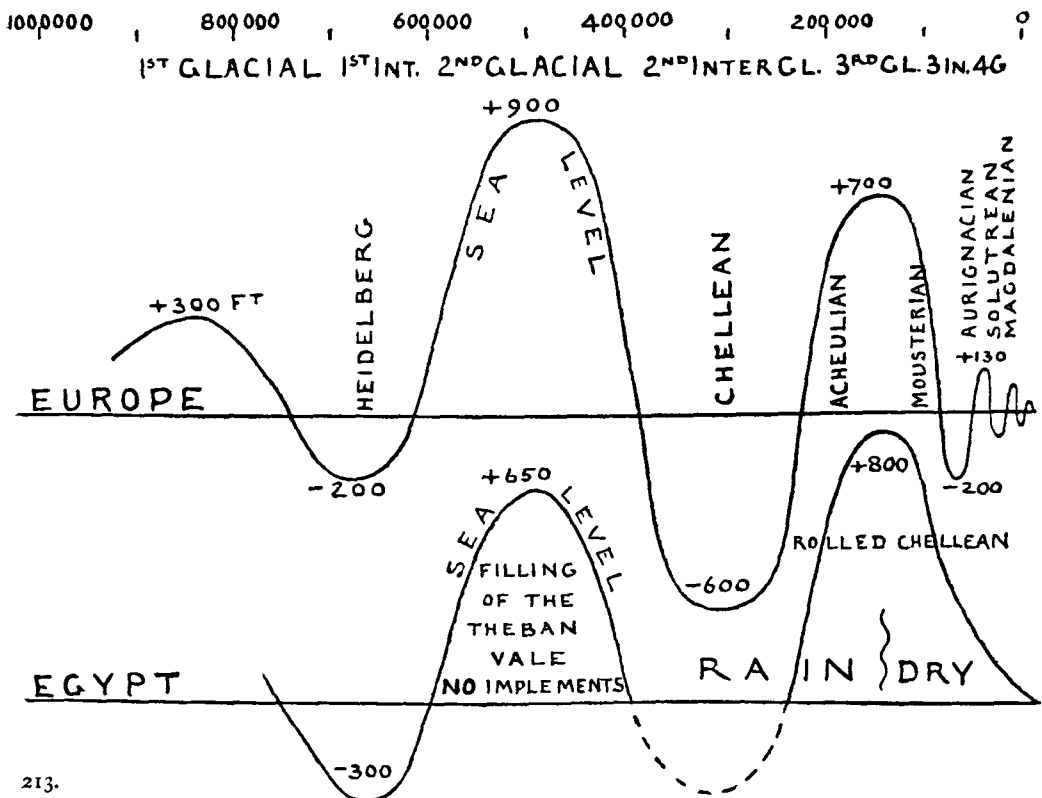
the same time pushed out the Delta forward; so the actual front of the deposit has always been at about the same sea level. In saying this we do not take into account the sinking of the Delta in Arab times.

On the basis of the various changes of sea level we may now attempt to connect the Egyptian with the European changes.

EGYPT.				EUROPE.			
Earliest prehistoric civilisation.				4th Glacial	...	Late <i>Magdalenian</i> .	
Fayum flints.						<i>Solutrean</i> .	
Early settlements.						<i>Aurignacian</i> .	
			Sea Feet.		3rd Intergl.	...	<i>Mousterian</i> .
Sohag cliff gravels	...	...	+ 800	+ 700	3rd Glacial	...	<i>Mousterian</i> .
							<i>Acheulian</i> .
Kings' Valley clearing	...	...	- x	- 600	2nd Intergl.	...	<i>Chellean</i> .
Kings' Valley filling	...	...	+ 650	+ 900	2nd Glacial	...	
Collapsed caverns	...	...	- 300	- 200	1st Intergl.	...	<i>Heidelberg</i> .

It accords with this connection, that I have repeatedly and closely searched the sections of the filling of the Kings' Valley for worked flints, and never could find any in those beds; as they are pre-Chellean it is not to be expected there should be such worked flints. On the other hand there are plenty of palaeoliths on the top of that filling.

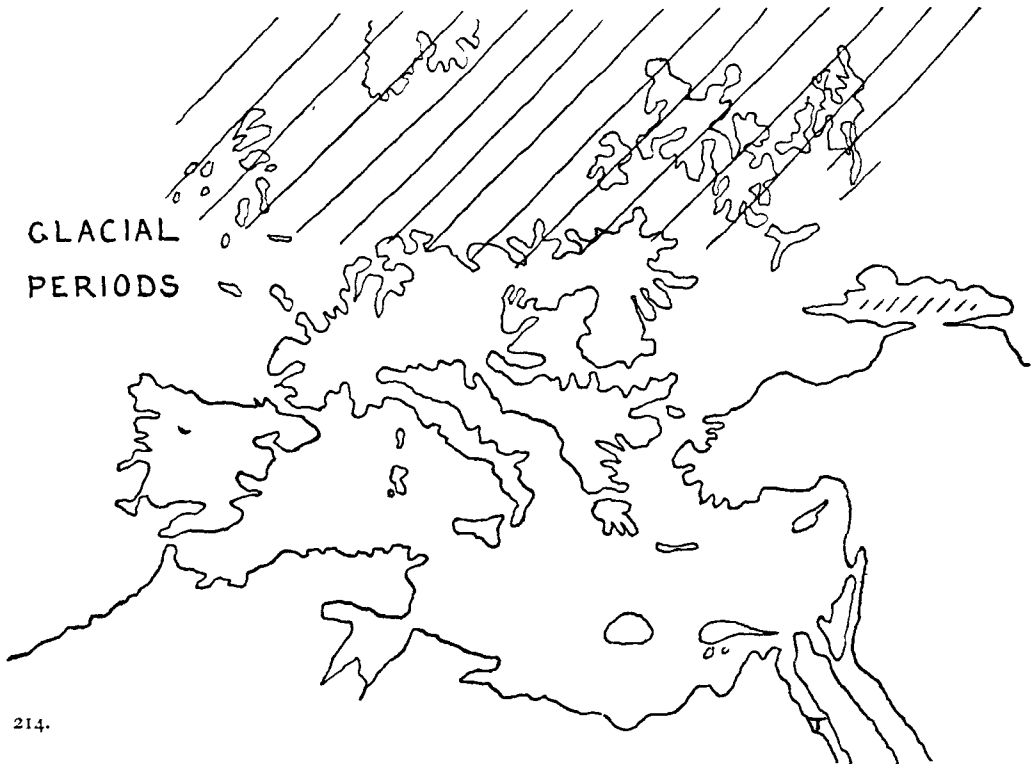
In the following diagram, Fig. 213, the extent of these movements of sea level is shown, with the suggestion of their being contemporary. The approximate dates are placed at the top, merely to give an idea of the extent of time involved



in each change. The human periods from the Heidelberg man to the Magdalenian are marked with the European curve. The Egyptian curve has no human remains

yet known associated with its first rise of sea level, where they have been searched for in the Theban vale (Valley of Tombs of the Kings). In the second rise there is the rolled Chellean implement of Esneh at about 450 feet over present sea level, implying that the Chellean age was before the middle of this rise. These limitations of the Chellean age agree with its position in Europe. In the second rise is here marked the change from a rainy to a dry climate, as indicated by the entire absence of erosion since the deposit of the high level gravel at Sohag.

These changes of level of the sea imply great changes in the coast outlines. In the two sketch maps are shown what the coasts would be with a sea level of 600 feet lower and 600 feet higher. These are not the extreme changes, but show the conditions which would have lasted for many thousands of years, becoming more, and then less, pronounced. In the map during the glacial periods, 214, an



open shading shows where ice is considered to have extended. Central Europe was an island with deeply indented branches of Italy and the Balkans. A clear waterway went through southern France, the Dardanelles, and out into the great Russian sea, in which the Caucasus and Urals stood as mountain boundaries. On the south the African coast lay as far back as the latitude of Thebes, marked T, in the Nile valley. Thus, westerly winds would bring precipitation over Egypt freely being first arrested by the eastern mountains, and so producing tributary streams on the east side of the Nile estuary. A clear waterway existed around the Palestine hills into the Red Sea. Such were the conditions of the cold periods, when Egypt had a climate like that of Constantinople or the south of Japan.

In the warm periods favourable to man, when the Chellean and Solutrean work flourished, this coast line was very different (Fig. 215). The much more continental condition must have favoured intercourse, and the spread of types of work. At the extreme low waters (here dotted) Cyprus joined Syria, Crete was a link between Greece and Asia Minor, Italy joined Africa, Sardinia and Corsica joined Italy,

the Balearic Isles joined Spain, and Spain joined Africa, thus making two closed lakes of the Mediterranean. In the north-west a great extent of land entirely included the British Isles, with a steep edge of it, as steep as the Ligurian or Welsh coast at present. Thus the whole conditions of life and of intercourse must have been entirely different many times during the human period. What is shown in these maps are the 600 feet contours, which were not the extreme conditions, but such outlines as must have lasted for a long period.



215.

We can now realise what needs to be looked for in Egypt. Unhappily, in recent years, the surface flints have been remorselessly gathered up by the cartload to the order of speculators, and their history and meaning entirely lost. All over the Theban district, which was one of the richest and the most important by the successive periods there traceable, there is not a flint worth notice left, only sad little pits dotted over the ground, where they have lain. Some good and careful work was done by Mr. Montague Porch, who levelled by aneroid the positions of the fine series of flints which he collected, and I have always noted the levels of the flints which I have picked up. A fine Acheulian flint, with secondary working, lay by a cliff edge, 800 feet high, at Naqadeh, or at 1,030 over sea. This would never have been submerged, and no very heavy rainfall occurred since its time sufficient to denude the rock and wash it away. This accords with the appearance of its position. On the other hand a well rolled Chellean pick (*coup de poing*) I picked up on a spur of hill behind Esneh, estimated at 200 feet over Nile, or 460 over sea; and this is within the submersion of the 3rd glacial period.

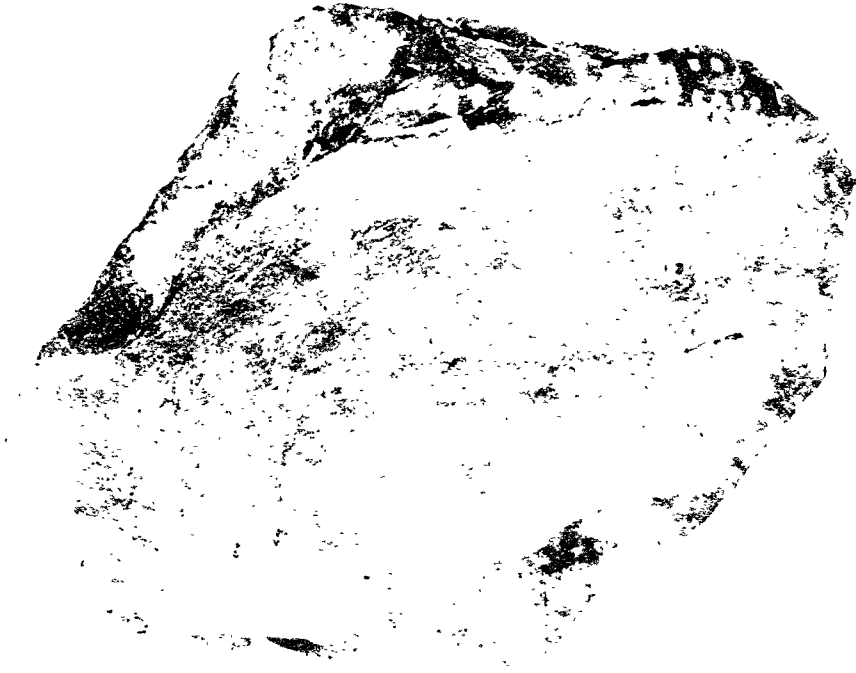
The main matters to search for now are traces of raised beaches of the submersions, and flints connected with them; levels of waterworn and of unworn flints

of each early period at about 600 feet over sea ; any worked flints in the Kings' Valley filling, or in the banks of *débris* washed out of side valleys at high levels ; the period (Mousterian?) of flints in the high gravels, and the relation of Fayum flints to the continuous prehistoric civilisation. Of course, flints may be found perfectly fresh and unpatinated if they chanced to be buried very soon, without water wear, and have only been uncovered by denudation lately. Such was the case with one of the rudest and most massive picks (Fig. 9), probably lost in the zero level period of early Chellean, and then bared again in modern times where I found it, at near Nile level. By far the most important matter is the levelling and position of flints on the slopes and ledges of the hills in the Thebaid, where there was always a land surface throughout all the changes of level.

W. M. FLINDERS PETRIE.

BOAT NAMES IN EGYPT.

IN the *Hieratic Ostraka* from the Ramesseum, Dr. Spiegelberg transcribed some tallies of the boat loads of blocks of stone, brought down for the building. The sizes of the blocks in cubits were stated, and the names of the owners of the boats, such as Pen-tep, Khoy, Pă-abtu, Mohu, Min-nekht, Khensu, Tahuti, Nekhtu-amen, Setmes, and others, sometimes with the father's name added. The general load for a boat was six to seven blocks (see numbers 135, 136).



OSTRAKON FROM THEBES, GIVING NAMES AND LOADS OF BOATS.

Here we publish another Theban ostrakon with various tally numbers, averaging also between six and seven. These, therefore, are probably also tallies of the delivery of boat loads of stone. The signs, however, are not personal names, but apparently the names or signs of the boats. The writer was evidently not a regular scribe, as he had no habit of writing in one direction; he made eight signs face the right, in the usual scribe's direction, and six signs face the left in the European direction. Probably he learned his signs from big monuments, on which they face either way for symmetry.

The names and loads of the boats are as follows, beginning at the top and the left hand :—

Khepesh	...	...	...	6	Heb	...	...	...	...	5
Qed...	...	...	...	14	Kă	...	...	...	...	2
Mer...	...	...	...	5	Anr?	...	...	...	...	3
Uzat	...	...	...	5	Uazet	...	...	...	...	15
User	...	...	...	9	Het? (temple)	...	...	...	...	3
Her (Horus)	...	...	...	6	<i>x</i>	...	...	...	...	3 + <i>n</i>
Hebs	...	...	...	12	Qenbet	...	...	...	...	11
Urs ...	...	...	...	9	Renpet	...	...	...	...	4
Anu...	...	...	...	5	Mena	...	...	...	...	2
Khent	...	...	...	5	Uben uăs	...	...	...	...	2
Rannut	...	...	...	5	Hez	...	...	...	...	3
Zu? user	...	...	...	3	Neit	...	...	...	...	1 + <i>n</i>
Shot (papyrus roll)	...	...	...	10						

Many of these names are much like modern ones in the Navy, or the luggers and barges of to-day. The Turnabout, The Mighty, The Powerful, The Beloved, The Rest, The Harvest, The Feast, The Glory of Thebes, The Firm One, and the several names of deities, like the Saints of the Spanish Navy, are quite what we should expect. Observe also that nearly all of these words are single signs which could be set up as a figure-head, or painted large upon the bows.


This ostrakon was brought to me from Thebes, and is now in University College, London.





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
PERIODICALS.





















Zeitschrift für Aegyptische Sprache, L, 1912.



















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





11. SPIEGELBERG, W.—Brugsch first suggested, and Sethe has proved, that the Boheiric **ⲁⲥⲫⲟⲩⲓ** is derived from the Egyptian {  *h3t-sp*, the regnal year of a king. Two new examples from the Coptic are given **ⲧⲥⲡⲏⲩⲩⲩⲩ** and **ⲧⲥⲡⲏⲩⲩⲩⲩⲩⲩ**. Here **ⲥⲡ-**, which is in the construct form, is obviously a feminine word, having the definite article and the numeral in the feminine.

12. ROEDER, G.—In the temple of Bet el-Wali the title of Rameses II is given as     "son of Ra in truth." The indirect genitive helps to emphasise the filiation of the king.

13. SETHE, K.—In Spiegelberg's edition of the Pedubastis-romance occurs a word which looks like the preposition **ⲣⲉ-**, but which he translates as "To happen" and once as "To do." It can, however, only be the qualitative of **ⲥⲓⲣⲉ**, **ⲟ** (Achm. **ⲥ-**), a word which has hitherto been looked for in demotic in vain. In demotic also there occurs the form  , the 3rd pers. fem. sing. of the pseudo-participle, which has not been preserved in Coptic.

14. DÉVAUD, E.—The noun   of Saitic and Ptolemaic times is generally derived from the verb  . This, however, is not correct as the word in question derives from  . The verb   does not occur later than the Middle Empire, nor is the noun   found before the Saite Period. On the other hand   is not used in texts after the second Theban Empire. For direct proofs of the identity of the two words, see Petrie, *Denderah*, 8,    ; and on a Saite statue *wb*,    , and several others.

15. DÉVAUD, E.—A correction of Gardiner's translation of the sentence                , by changing  into ; when the sentence reads: "Giving falsehood to him who says it, truth to him who comes with it."

16. DÉVAUD, E.—The  in the verb     (Coptic **ⲥⲓ**) is not one of the radicals of the word. The two signs  and  have the same form in hieratic, and the scribe in writing  has had in his mind , of which the phonetic complement is . Hence the mistake.

REVIEWS.

The Tomb of Amenemhät. Copied by NINA DE GARIS DAVIES; text by ALAN H. GARDINER. 4to, 132 pp., 46 plates. (Under the auspices of the Egypt Exploration Fund.)

In this volume is issued for the first time a detailed study of the funerary system of the Egyptians, and we owe Dr. Gardiner gratitude for applying the latest knowledge to the comprehension of the texts on the subject. Stimulated by the excellent copies of Mrs. Davies, the author has published this admirable introductory volume, for which the "auspices" of any society are needless. It may be hoped that he will give the world many more volumes of "The Theban Tomb Series" to which this is introductory, and so make accessible the mass of detail which remains from one great period of civilisation.

The tomb selected for this introductory volume is not of historical interest, but is chosen as giving ground for description of the funerary system as a whole. The principal discussions of general matters are on the *hetep da nesut* formula, and the magical value of the scenes represented. The formula which heads every funerary inscription, is by its habitual use and brevity not easy to comprehend. The earliest sense of it is concluded to be "a boon which the king gives," and as usually applied it becomes "an offering which the king gives." The precedence of the sign "king" is due only to the usual rule of placing it honorifically first in the sentence; and the real order is shown in some of the variations where gods are named instead of the king. The sense formerly suggested that it was a prayer "may the king give," is set aside by the syntax, and the variant *erdau*, the relative form. Why the king should be considered to give all the sustenance to the dead, has been generally explained by the high-priestly function of the early king, emphasized in a stele of the XVIIIth dynasty, where the king actually performs the family offering (*Student's History*, II, 172). Dr. Gardiner prefers, however, the explanation that the formula was originally that of the royal burial, where the living king offered to his father, and was thence transferred—without change—to the private usage. This is supported by the parallel of the transference of chapters of the royal ritual (Pyramid Texts) to private use, and by the expression "the Osiris" passing from the deified king to his subjects. Both of these parallels are, however, long after the period of the *hetep da nesut* for private persons, which was in full use in the IVth dynasty, so soon as there is any bulk of monuments to study. We may say that there is another sense to be considered also. In early society, as Dr. Seebohm has shown, all property is ultimately vested in the chief and he grants the use of it to the actual holders. The chief sets up in life each youth with cattle or land-rights, which have to be returned at his death or in the

third generation after, for redistribution. Hence all property is given by the chief primarily, and only the usufruct of it is personal property. When gifts are made to the dead they would thus pass out of the common fund which is returnable to the chief, and it would be natural therefore to require his consent. The two aspects of the tribal chief, as communal trustee and as high-priest, seem to fully account for the offerings to the dead being considered as coming from the king. It might be thought that so daily a matter as food would not be looked on as tribal property: but the earliest of such formulae are for a sarcophagus and burial, *i.e.*, all the property that was put in the tomb. Further, we must remember that the chief had wide-spread rights to food-rents, or maintenance, and it might well be that the offerings were primitively granted out of the food-rent belonging to the king, just as parochial endowments for masses for the dead in Wales arose out of a dedication of the chief's food-rents. Taking into account these features of tribal society, it seems needless to resort to a very early transfer of a royal formula. The whole conception of property and food dedicated to the dead would seem to require the chief's consent, and be granted by him as trustee, and offered by him as priest of the tribe. Of the later stages Dr. Gardiner says: "From the Middle Kingdom onward these various uses were confused, and a hybrid formula was evolved, the underlying idea of which was a bargain struck between the king and certain gods, offerings being made to the gods as an inducement to them to give similar offerings to the deceased." This is considered due "to a purely philological cause, namely the habit that grew up" of blending the phrases, "a boon which the king gives and which Anubis gives" as "a boon which the king gives, Anubis." It seems doubtful if the contracted writing could change the whole conception of the offering, and we should rather look to social and economic causes for the transfer. If the offering were made to the god for the benefit of the dead, then the priesthood received it, and the priestly aggrandisement of the Vth dynasty and onward would urge on this change. Another cause for bringing in the gods as intermediaries would be the constant alienation of funerary endowments; by consecrating them to the gods for the dead the divine protection was invoked. It was in fact introducing a trustee in order to secure the property. A good instance is quoted where the son is shown offering to his parents, while above that is shown the king similarly offering to Osiris and Isis. Thus the human offering to the human person reacts on the divine offering to the gods, for them to ensure it to the person. In the latest stage the power of the word was thought to suffice, and the passer by was desired to recite the formula so as to convey to the dead the benefit of the offerings named.

The magical value of the funerary scenes has been dwelt upon by Sir Gaston Maspero, but denied by the wholly materialist school of Berlin, which regards them as pompous display. In this, and other points, the sympathetic insight of the French school is accepted and acknowledged by Dr. Gardiner. The hidden texts on the insides of the coffins, or buried in the tomb chamber, were nothing as a demonstration to the living, and they force us to accept such provision as solely for the magical benefit of the dead. Similarly, we may add, the hunting and fishing scenes in the upper chambers are the evident descendants of those hunting scenes on the prehistoric grave at Hierakonpolis which was never to be visited by the living. It is only when we reach the biographical inscriptions that the intention for the living appears; and we should note that these inscriptions are at first outside of the tomb chapel (Herkhuf, and at Thebes), and only were transferred to the inside later, in order to protect them.

Many points of general interest occur in the description of the tomb. The family names are all of the style of the early XVIIIth dynasty; but a strange—perhaps foreign—form is Aohmes Hamash, which latter is supposed to be a pet name for Aohmes.

The order of the subjects in the tomb, and the reasons for their position, orientation, and facing direction, are carefully discriminated, and shown to be strictly in accord with the purpose and idea of the meaning.

The erasure of the *sem*-priest is noted as due to the Aten movement; it throws light on the secondary features of that religion, of which we know but little. It appears that the priestly function was disliked.

The usual early figure of the table of offerings is discussed. The view that the subject represented leaves of reeds laid over the offerings, is not supposed to be the original idea, but only an ignorant adaptation by the Egyptians, while the original objects are believed to be a row of sections of loaves, or slices of bread.

An interesting scene is described of Amenemhêt making offerings for the various craftsmen employed on the tomb. This might be taken as giving them a share in the perpetual magic benefit of the representations. But there may be a further meaning, when connected with the foundation deposits of materials and models of food for workmen. May not these workmen have been required to renew the perpetual freshness and completion of the tomb paintings for the benefit of Amenemhêt? So just as he fed them while they made the tomb, so he feeds them in figure that they may renew it.

The full extent of the primitive unflashing of the body is not only known by the references in the Book of the Dead (collected by Mr. Wainwright in *The Labyrinth and Gerzeh*, pp. 11-13), but by the ceremony named by Dr. Gardiner of "fastening the jaws that were severed."

In two places in the tomb it is noted that some of the women are coloured pink instead of the usual Egyptian yellow. There are the two musicians and several serving women in the feast scene, and two of the bearers of offerings. It can hardly be doubted that these are northern or Syrian captives. We need a study of the extent to which foreign captives were employed and represented.

The use of candles in the ceremonies shows that such were customary in Egypt, though no remains of them have been found. The lighted candle represented in the hand, on the gilt cartonnage busts of Roman age, is, therefore, of Egyptian origin.

There are many other points of external interest in the book, beside the value of the general study of the funerary ritual and system. A few points the author may perhaps reconsider. A genealogy is printed with all the names upside down; it is far better to arrange genealogies in a column to each generation, with the eldest at the top of each column. On p. 48, surely a boat went from Beni Hasan *up* to Abydos, and not down. On p. 64, the stools cannot have been of bamboo, which was unknown in Egypt; they appear to be palm-stick crates, like the modern work. The cones on the head are stated to be entirely of scented ointment; but the vase from which they are supposed to be taken is much smaller than a single cone. The truth seems to be that the cone is of hair, like the modern African (ANCIENT EGYPT, 1914, 169), and the scented ointment was put on the cone, which could afterwards be detached so as not to saturate the wig.

Of the fidelity and artistic quality of the copies by Mrs. Davies it is needless to remark; it is well known to all that they cannot be surpassed, and the more of the ancient work is perpetuated in this way the better for its future survival.

Sièges de Prêtres.—Par GEORGES DARESSY. 8 pp., 1 plate (*Bull. Inst. Français Arch. Orient.*, Cairo.)

A familiar object in the Saïte and Ptolemaic town ruins is the solid limestone headrest. The wooden pillows which are usual from the pyramid age to the XIXth dynasty ceased to be made, and heavy limestone blocks appear instead. Now in the present paper M. Daressy has shown that similar blocks are found up to a large size, and that such were seats, as stated in an inscription. On the strength of that he terms all such blocks as seats, and would regard the lesser sizes as votive seats. It seems more likely that the low blocks of only six or seven inches high, and not much more in length, were headrests; especially as they curve up sharply at the ends, to prevent the head rolling over, while such a form prevents sitting upon them. Another feature is the hollowing out of the side, which is useless for a seat, but adapted for the shoulder in lying down. One such block from Memphis had a little shrine cut in it to hold a figure or amulet (*Meydum and Memphis*, III, Pl. XXXIII); this would be more appropriate for sleeping on to influence dreams, than for sitting upon.

While the commoner small blocks are therefore headrests, the larger blocks described are now shown to be seats. Two were found at Karnak, one of sandstone, the other of red granite, about eighteen inches high and wide, and a foot thick. The sandstone seat has, on the larger face of it, an inscription of ten columns, carefully cut and painted blue. It is translated as follows:—

“The prophet of Amen-ra king of the gods; prophet of Horus the great one of both lands, great . . . of Amen; first prophet of the image of Pharaoh ever living; prophet of Osiris, of Ptah-Sokar-Osiris of Koptos in the Hall of Gold, of Horus, of Isis, of Nephthys and their allies, ruler of the temple of Khonsu Nefer-hetep of Thebes; priest of Min in the House of the Elder; fourth prophet of Amen; opener of the door of Amhut, passing in his skin; the great ruler (*ka*), keeper of . . . and of the king of the gods in his time; second prophet, making the passes of Osiris, chief of the modelling of his form, divine father, initiate in the mysteries, sacred purifier, IMHOTEP . . (son of) . . . sacred purifier of the temple of Mentu lord of Thebes in the temple of the bull (Bakis), HORUZA. He says, in adoring his lord, (I was installed) in my seat among the chief prophets in the place of the great purification as instructor-in-chief of those . . . on the seat; making the passes on the eyes, in alternation, the companion did things without knowing. He knew also that the love of Amen was better than millions of things, than hundreds of thousands of pieces of silver. He has been consecrated to Tanen as his prophet, and to Isis as priest of the sycomores. He satisfies himself with truth, he lives with Her, his heart rests in the great purification. I look for help to transmit to my *ka* all the members fulfilling their functions, and to end my days on earth in the service of Amen as director of the prophets in his great temple.” Of the notes of M. Daressy on this inscription most are technical; but he compares the “passes on the eyes,” and effect on the subject, to modern hypnotic action.

Coptic Cloths.—By LAURA START. 8vo, 36 pp., 38 figures, 1 plate. 2s. 8d. by post. (Bankfield Museum, Halifax.)

This pamphlet describes the different styles followed during about a thousand years in Egypt. A careful analysis is given of the methods of weaving, and of constructing the patterns by direct shuttle, by hand-working on the warp threads, and by stitching after the woof is complete. The method of weaving cloth

specially for the form of garments, and of hemming and stitching such garments, is described and illustrated. Such technical descriptions and explanations are much needed in order to understand the complex development of ancient crafts, and their relation to modern work. A study like this at once adds life and value to collections, which otherwise are merely a subject of ignorant wonder to the usual antiquary or excavator. Anyone who wishes to understand the subject should get this account and study it.

The writer does not touch on the origin of the embroidery patches on Coptic garments, which seem to be utilitarian to prevent wear and tear. The two main pieces are large ovals at the knees, then lesser ovals over the breasts, and broad stripes across the shoulders. Whether darning or patching the wear originated the use of embroidery on those parts, or whether the decoration was put on as a preventive, we do not yet know.

The reader should correct two serious misprints : on p. 4 the warp threads are 140 not 540 to the inch ; and on p. 32, in the first column of dates, 1738 should be put to the XVIIth dynasty.

Culture of the Ancient Pueblos of . . . New Mexico and Arizona.—By WALTER HOUGH. Smithsonian Institution, Bulletin 87. 1914. 133 pp., 29 plates, 348 figures.

Though purely American, this account contains some interesting parallels to Egyptian products. There is an extensive system of dedicating offerings of all kinds to the gods, and placing such offerings in caves, where they have been long preserved. Such objects are called *paho*. The *pahos* described are of twigs, hooked sticks, bows and arrows, bird carvings, feathers, fire, cigarettes, fire-sticks, dress, model baskets and flutes. Those which are of more interest to us are the models of animals roughly pinched up in clay (Figs. 260–275), exactly like the model animals found at Kahun, where they were apparently toys made by children (*see* p. 165, Vol. 1914). Another curious parallel is in the reed gaming sticks or dice, which are long slips split off a reed, with the knots painted, the throw being determined by whether the slip fell inside or outside uppermost. This is exactly what was found carved in ivory in the tomb of King Qa (*Royal Tombs*, I, xvii, 30, p. 23), and like the slips of reed used in gaming in Egypt at present. All such usages similar to those in Egypt serve to illustrate the mode of thought and the use of objects.

NOTES AND NEWS.

THE war naturally overshadows every other care and activity. We can only hope to keep the constructive interests alive for the present, so that they may revive again after the scourge on civilisation may be ended. Mr. Brunton and Dr. Amsden are at their posts still, at Netley and Cooden Beach. Mr. Engelbach, after his recent marriage, is daily expecting to be sent abroad from Sheerness. Mr. Angelo Hayter is now in the censorship of letters. Mr. Duncan Willey has found a fit scope for his Arabic as Assistant Political Officer to the High Commissioner in the Persian Gulf.

The Egyptian collection at University College, London, has been partly arranged during the winter, and will be thrown open to the public, in lieu of the usual Exhibition at the College, for a month from June 7. After that it will continue to be accessible to the public on application. The facility of study with a library and collection side by side, may, we hope, carry out the intentions of Miss Edwards in establishing that centre for the subject. We hope in our next number to give readers a sketch of the scope of the collection, and some views of it.

THE PORTRAIT.

THE charming head of a limestone statuette, which we give in this number, was one of the treasured acquisitions of Dr. Capart at the Brussels Museum; we hope that he may long continue to guard it there. It represents a high class Egyptian, doubtless of Thebes, at the close of the XVIIIth dynasty. A comparison of the treatment of the face—especially the lips—with the statue of Tutonkhamen (*Arts and Crafts*, Fig. 38) shows that it comes from the same period and schools, we may almost say from the same artist. It has much of the Syrianised refinement of type in profile, but is not so light and graceful. In front view it shows a curious heaviness in the width about the ears. The eye is small compared with the usual type, and is even smaller than the modern English proportion. These features give an air of dogged reserve which is unusual, and hardly accords with the freedom of the mouth. It is clearly a strict portrait as it departs from the usual type, so familiar in the works of that age. The piercing of the ears for wearing ear studs was then a fashion, seen in the statues of Akhenaten and Rameses; yet, strange to say, we have no male head shown with the ear studs, which only appear on a few statuettes and coffins of women.

THE ANNUAL EXHIBITION AT UNIVERSITY COLLEGE WILL BE OPEN
JUNE 7 TO JULY 3, 10 TO 5; EVENINGS OF JUNE 10, 15, AND 25, 7 TO 8.30.



HEAD OF AN OFFICIAL, XVIIITH DYNASTY,
IN LIMESTONE. BRUSSELS MUSEUM.



HEAD OF AN OFFICIAL, XVIIIth DYNASTY,
IN LIMESTONE. BRUSSELS MUSEUM.



WOODEN STATUETTES OF SENUSERT I., FROM LISHT.

ANCIENT EGYPT.

EXCAVATIONS AT THE SOUTH PYRAMID OF LISHT IN 1914.

REPORT FROM THE METROPOLITAN MUSEUM, NEW YORK.

THE programme of work carried out at the Pyramids of Lisht by the Museum Expedition during the season of 1913-14 consisted of two parts: (1) that at the North Pyramid, and (2) that at the South Pyramid, which is of King Sesostris (Senusert) I, of the XIIth dynasty.

As the work progressed, we exposed first two small pyramids lying between the inner and outer enclosure-walls of the pyramid (see Fig. 1), both of them stripped of their outer casing-blocks, the western one constructed with a core of small, roughly cubical blocks of limestone, the eastern one with a core of sun-dried brick which had originally been encased with limestone. The entrance-passage of the small stone-pyramid was opened by the French Expedition and found to have been completely plundered in ancient times. The entrance to the other small pyramid was about 2 m. square, descending perpendicularly through the bed-rock of the plateau to a depth of about 15 m., where a passage led off diagonally north-east to a chamber approximately under the centre of the pyramid. The filling of the shaft consisted of Nile mud packed down so hard that the implements of our workmen could with difficulty be driven into it, thus showing the great length of time that it had lain undisturbed; but the presence of broken pottery vessels and other material in the filling at various points prepared us for the result which we finally derived—the chamber had been completely plundered at some ancient period.

Of the limestone casing with which the mud-brick core of this pyramid was originally covered, and also of the platform of limestone blocks upon which the structure had rested, a sufficient amount remained to render it certain that the pyramid had had a chapel on its eastern side toward the Nile valley; while under the platform there was found at each of the four corners of the pyramid a "foundation-deposit." These were practically identical in character and in each instance had been placed in a square pocket about 80 cm. in diameter and 1 metre in depth, excavated in the bed-rock upon which the platform rested. The bottom of the pocket had been covered in each case with about 5 cm. of clean gravel upon which were some twenty-five to thirty small pottery model dishes and vases, while scattered among them were a number of small lozenge-shaped blue glazed beads. On these objects were laid the skull and some of the bones of an ox which had been sacrificed as a part of the ceremonial. The pocket had then been completely filled with gravel in which, at about half its depth, was laid a small model brick of sun-dried Nile mud. Finally the pockets were covered by massive limestone blocks which in each case formed the corner blocks of the pyramid-platform.¹

¹ This is precisely like the deposits of the second pyramid of Lahun (W. M. F. P.).

As our work progressed to the eastward beyond the outer enclosure-wall of the Pyramid of Sesostris, a large mastaba-tomb was disclosed situated in the angle formed by the enclosure-wall and the temple-causeway, of one of the great officials of Sesostris, "The Hereditary Prince and Count, Treasurer, High Priest of

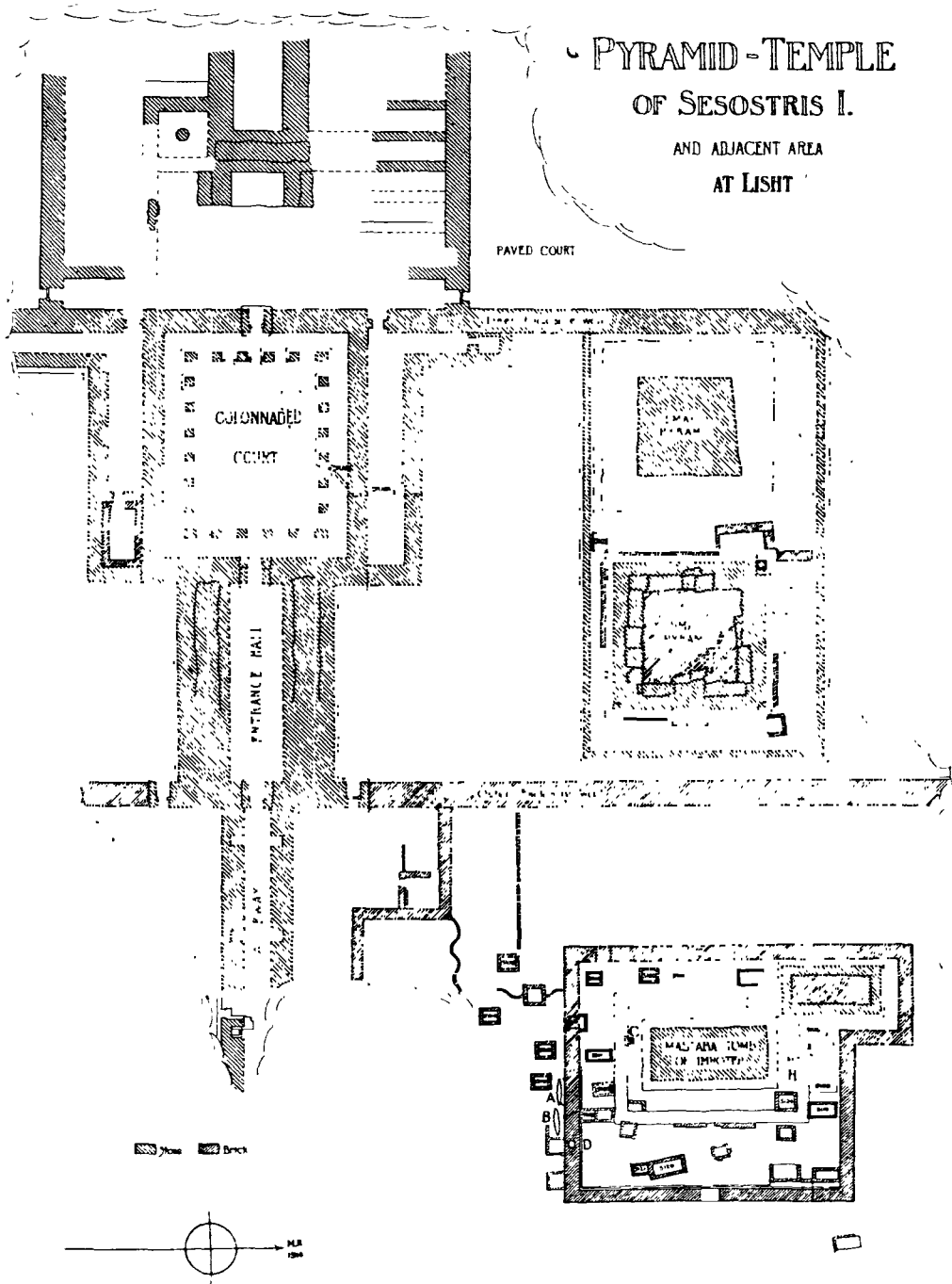


FIG. 1. TEMPLE OF SENUSERT I AT LISHT, WITH SURROUNDING WALLS AND TOMBS.

Heliopolis, Priest of Horus, Priest of Min, Chief Scribe of Divine Records, Superintendent of Land, Superintendent of all works, the King's Favourite, Great in his office, Imhotep."

As our excavation of the ground around the tomb of Imhotep proceeded, the section immediately south of the tomb, including its enclosure-wall on that southern side, began to yield evidence of particular interest. Along the outer (southern) side of the wall the excavations were carried below the original surface level at the time of the construction of the wall in the XIIth dynasty, and at the points marked A and B on the plan in Fig. 1 there were found two divine barks, each about 2.75 m. (9 feet) in length. A photograph of that at A is shown in Fig. 2. In shape it was of the "papyrus form" type with straight rising prow and recurving stern, its body fashioned from a solid log of wood, with the prow and stern posts dowelled to it. The rails along the deck were likewise attached by dowels. The



FIG. 2. CEREMONIAL BOAT BURIED BESIDE ENCLOSURE WALL.

gunwales where the rails stood bore traces of red, though no evidences of painting were preserved on other parts of the boat. It was in an excellent state of preservation.

The second boat, at B on the plan, was of the same form but was constructed of light boards or slats and was in too disintegrated a condition to be removed. The prow, however, showed evidence of having been painted in stripes of blue, green, and red.

Following the discovery of these boats, our excavations on the inner or northern side of the enclosure-wall near by brought to light, at the point marked C on the plan (Fig. 1), remains of two other boats of a rarely occurring type known as solar barks. The remains consisted of two prow and stern posts, together with two complete sets of the symbolical or magical objects which occur upon the decks of boats of this kind, as on that in the Cairo Museum.

For some days as we had been clearing this section of ground our basket boys had been running over the enclosure wall to dump into the cars just outside, and the fact that a crack had remained open in spite of the dust and dirt constantly falling from their baskets finally attracted attention. As no one had ever known or thought of the existence of antiquities in the heart of a mud-brick enclosure-wall, I was entirely unprepared for the sight that met my eye when I threw the light of an electric lamp down through the opening in the brickwork. As far as the size of the crack allowed me to see, there appeared to be, close below, a chamber of moderate size, while immediately under the opening I looked down



FIG. 3. A. POSITION OF BOAT, FIG. 2. B. SECOND BOAT. C. PLACE OF TWO OTHER BOATS.
D. CHAMBER WITH STATUETTES, IN THE WALL.

on the tops of two wooden statuettes, each wearing a royal crown, one the white crown of Upper Egypt, the other the red crown of Lower Egypt. Beyond this, I could not see much of the detail of the figures or whether the chamber contained anything besides the statuettes.

As it was then about six o'clock in the evening and nothing could be done before darkness to investigate further, about a dozen of our workmen were detailed to spend the night there as guards. Early the following morning the work of investigation was taken up in earnest and photographs were first made of the actual state of the wall (see Fig. 3). It was impossible to see what the nature of the roofing of the chamber was and, for fear that any attempt to remove the brickwork

above the chamber might result in the collapse of the roofing upon the objects below, it seemed best to begin to remove the bricks at a point beyond the extent of the chamber and so, working in to it from the side, determine the character of its roofing. This finally showed the roofing to consist of boards, which spanned the chamber and supported the courses of bricks laid across them above. As the boards were in sound condition, it was then possible to remove the brickwork above them and finally the board-roofing itself. The chamber proved to be about 65 cm. (26 inches) square, and approximately the same in height, its sides and bottom being lined with a pinkish-coloured plaster (Fig. 4). At the back against its western end stood the two royal figures, side by side and facing eastward. Each was in its proper position in relation to the division of the country which it

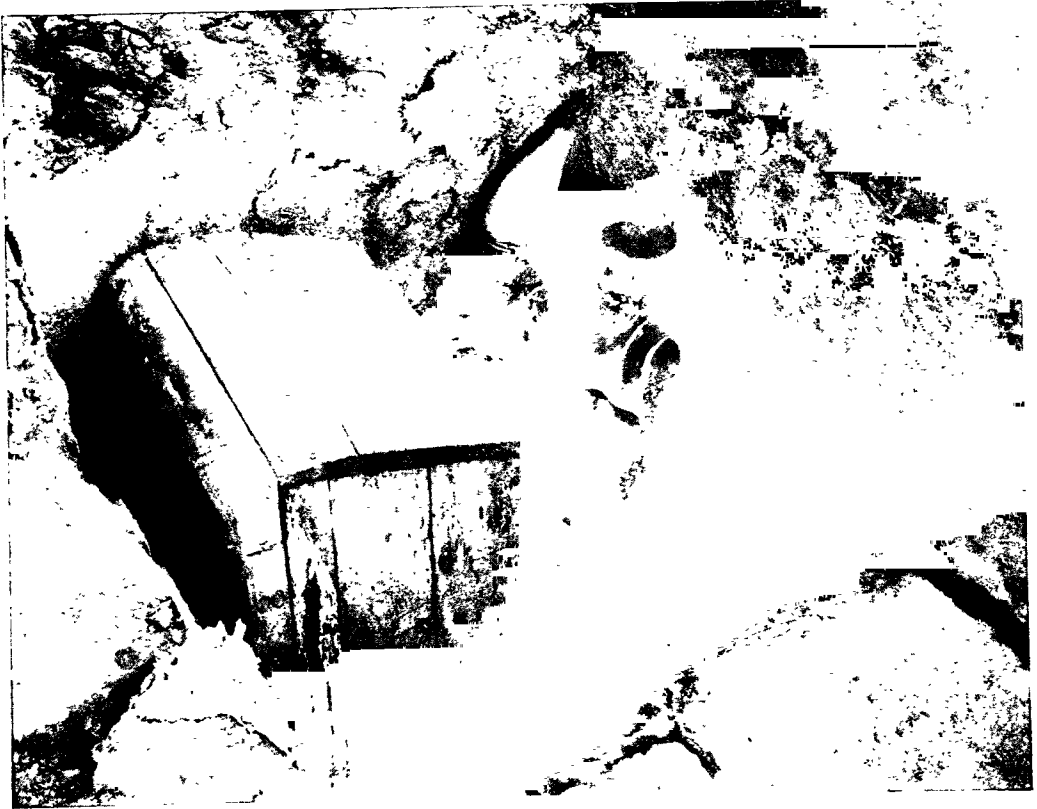


FIG. 4. CHAMBER WITH SHRINE AND STATUETTES.

represented, that as king of Upper Egypt (Fig. 7) to the south, that of Lower Egypt to the north (see portrait at end). In front of them and occupying most of the remaining part of the chamber was a wooden shrine. Apparently at the period when the wall had been stripped and before it had become buried under the drifting desert sand, enough dirt and moisture had entered the chamber through the roofing to form a hard packed layer over the floor to a depth of about 10 cm.

The statuettes, which were of cedar, were identical in pose and of practically the same size, that with the white crown measuring 56 cm. (22 inches), the other wearing the red crown 58 cm. (23 inches) in height. They represented the king, nude except for a short white skirt falling from the waist to the knees, standing in a vigorous attitude with the left foot advanced, and grasping with his extended left hand the *Hk* sceptre. To represent the skirt in each case, a thin layer of stucco had been applied to the wood and then painted, the folds of the skirt being

denoted in fine red lines. In the same way the crowns were treated with stucco and painted. The nude parts of the figures bore traces of having been represented in a pinkish flesh colour applied directly on the wood, and the eyes also had been painted. (See *frontispiece*.)

In the delicacy and subtlety of their modelling, these figures exhibit finer qualities in sculpture than anything previously known from this period of the Middle Kingdom. The rendering of the features and of the muscular development of the body, as well as the treatment of such details as the ears, hands, and feet, prove more clearly than some of the larger sculptures of the same dynasty—as for example the series of life-size seated statues of the same king also from Lisht and now in the Cairo Museum—that Middle Kingdom sculpture at its best has lost

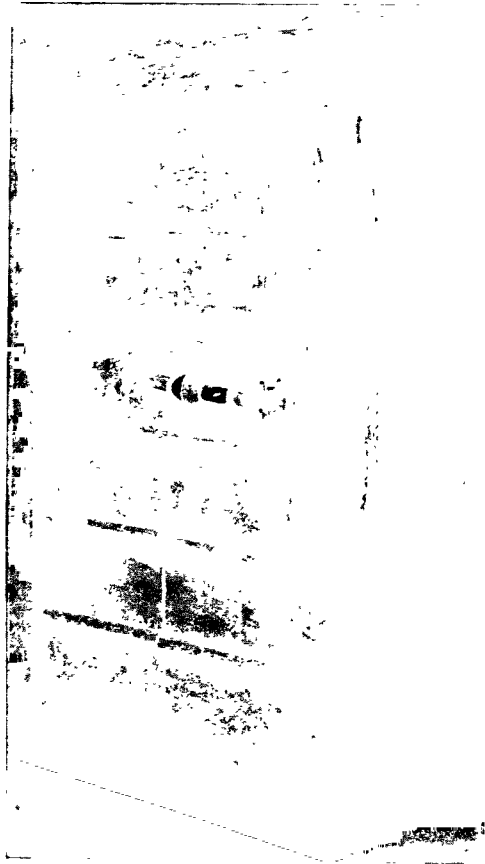


FIG. 5. WOODEN SHRINE CLOSED.

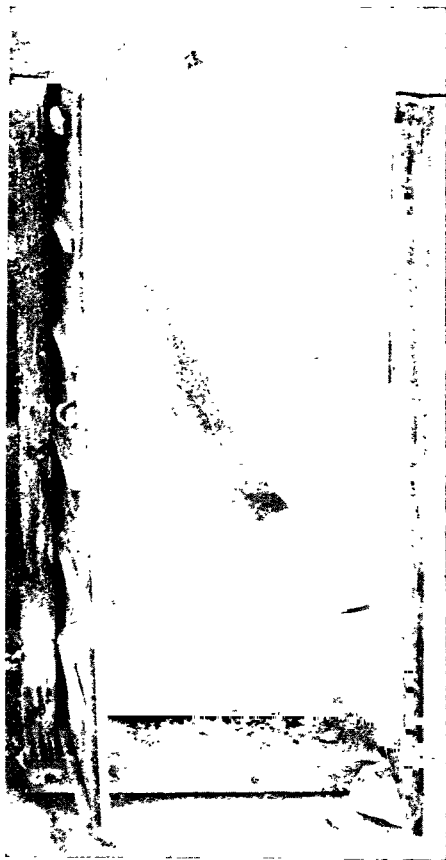


FIG. 6. WOODEN SHRINE OPEN.

neither the virility nor the realism of the work of the Old Kingdom, but with these has acquired certain refinements and subtleties of modelling which remove it from the archaism of the earlier work. Although these statuettes are uninscribed, yet they must obviously represent Sesostri I, whom Imhotep served in life and near whom he was buried.

To describe now the remaining object in the chamber—the shrine (Fig. 5), made of wood and painted yellow, was of the usual shape with curved top and had double doors fastened by the regulation form of wooden bolt sliding in three copper staples. It measured 58.7 cm. (23.1 inches) in height, 31.5 cm. (11.4 inches) in width, and 22.5 cm. (8.9 inches) in depth. Our natural supposition was that it must contain the figure of some divinity, but when the bolt was thrown back and

its doors opened it held an object of which the significance was not at first apparent. (See Fig.6.) This was an alabaster ointment vase, of a shape common to the Middle Kingdom, 9 cm. ($3\frac{1}{2}$ inches) high and 10 cm. (4 inches) in diameter at the top. The vase was about two thirds full of a bluish-coloured ointment, now completely hardened, in which was immersed a cedar rod, about 53 cm. (21 inches) in length and 1.5 cm. in diameter at the point where it entered the ointment. Except for a few centimetres above this point, where it was bare, the rod was completely enveloped in a linen covering carefully sewed on with fine stitches down one side and then carried around a prong-like projection from the lower part of the rod.

The floor of the shrine was covered with the dried shells of hundreds of small beetles which had attacked the covering in antiquity and eaten away its upper part sufficiently to expose the top of the rod, which was knob-like in shape. From the bulky appearance of the covering it seemed as if it must include something more than the slender rod.

With the removal of the outer covering, a regular process of bandaging appeared, the bandages as they were unwound proving to run in much the same fashion as that employed in the wrapping of a mummy, one wound around from right to left and one from left to right, in spiral fashion up and down, while small pads of linen soon began to appear among the bandages to fill out the corners of some object which it was now apparent



FIG. 7. STATUETTE OF SENUSERT I
AS KING OF UPPER EGYPT.
CAIRO MUSEUM.

had been wrapped against the rod. Altogether, thirty-three bandages and pads proved to have been used in the process, and finally the object thus wrapped against the rod was found to be a "dummy" animal—made of wadded linen cloth covered with skin having fine, short hair. This representation of an animal had also been wrapped with linen bandages before it had been wrapped against the rod, and was represented with the head cut off, the neck and fore legs hanging down. (See Fig. 8.)

The significance of the contents of the shrine then became apparent—it held the only known example of the "Anubis-symbol," the emblem or symbol of the



FIG. 8. ANUBIS SYMBOL UNWRAPPED,
ON STICK STANDING IN ALABASTER JAR.

god Anubis who presided over the embalming and served as the protector of the mummy. As pictured on the monuments it occurs occasionally as the symbol of Osiris also, probably through a confusion of the functions of the two deities, but in either case it is of the same form and identical with the example we now have.

This series of objects—the shrine and its sacred symbol, the royal statuettes, the divine barks, and finally the solar barks—is unique both in character and in the manner of its occurrence. It has added an interesting and important chapter

to our knowledge of Egyptian funerary archaeology in the Middle Kingdom, but at the same time it presents new problems which can be hardly touched upon within the scope of this report.

Near the gateway of the enclosure there was also found an object of much interest which had evidently been dropped by some plunderer as he was leaving the cemetery. This was an ushabti-box, with its ushabti, which had belonged to the Prince Wehnefer-hetep. The box, which was of the same shape as the coffins of this period, rectangular with curved lid, was painted red and ornamented with bands of gold-leaf on which inscriptions were painted in blue. One band extended down the centre of the lid, another horizontally around the sides of the box near the top, while, from the latter, shorter perpendicular bands ran down the corners and the sides. On one side was the usual eye-panel found on the coffins.

The ushabti itself was wrapped in linen bandages like a mummy and was lying on its left side with the face to the back of the eye-panel, in the same position in which the body was placed in the coffin at this time. When unwrapped, the ushabti was found to be of wood completely covered with gold-leaf, except for the wig, which was of blue stucco. On the front of the ushabti an inscription was painted in blue, in horizontal lines, which was of the regular character that occurs on ushabtis of the Empire and later periods. The occurrence of the inscription is noteworthy because this regular form of ushabti inscription is rarely met with during the Middle Kingdom.

ALBERT M. LYTHGOE.

A THIRD CENTURY STATUETTE IN THE VICTORIA AND ALBERT MUSEUM.

SOME little time ago, *The Burlington Magazine* published a note by Prof. Lethaby upon an exceedingly interesting little Mother and Child in wood. Although this statuette has been for some years in our National Collection in the Victoria and Albert Museum, it had never before been brought to the notice of the Art world.

Together with other objects, it was presented to the Museum in 1897 by the Egypt Exploration Fund; and being then described as possibly the Virgin and Child, Prof. Lethaby was led to ask, was it not perhaps "The Oldest Statuette of the Madonna." Whatever the subject, there is no doubt of its exceeding interest as a relic of the art of woodcarving, transitional between the Hellenism of the Ptolemaic period, and the later movement towards the grave and formal ideals of Byzantine and Coptic art.

The Professor's article was in a sense tentative: written with the view of ascertaining whether this was indeed the oldest statuette of the Madonna, or merely a doll. A letter by the present writer appeared subsequently, in which it was sought to show that, in view of the assigned date and place of discovery, it was perhaps rather a statuette of Isis and Horus. An answering letter from the Professor accompanied this, in which he seemed quite prepared to forego the Madonna hypothesis in favour of his previously advanced Doll theory.

The matter being scarcely more advanced by this correspondence, it would be a matter for regret if so unique an object should again drop into oblivion without at least an attempt to clear away the doubts respecting it. The first question that naturally arises, is, "Can the date ascribed to the statuette be accepted as conclusive?" In order to place this beyond reasonable doubt we must remember whence it came, and by whom it was probably unearthed.

Behneseh—the place of discovery—is a small village situated on the west of the desert, one hundred and twenty miles south of Cairo. It is the site of the ancient city of Oxyrhynchus, the capital of the Oxyrhynchite Nome in those days. In the Autumn of 1896 Prof. Petrie went out to Behneseh, arriving there at the beginning of December. Messrs. Grenfell and Hunt followed, arriving on December the 20th. Before the advent of the latter gentlemen, Petrie had superintended the erection of huts for the party, and made a preliminary survey, digging for about a week on the site of the Graeco-Roman cemetery. When Messrs. Grenfell and Hunt joined him he handed over the direction of affairs to them and proceeded himself farther afield.

It was after his departure that the bulk of the work of excavation was carried out, and our statuette was turned up during the operations of Messrs. Grenfell and Hunt. But the finding of the celebrated Oxyrhynchus Papyri naturally threw into comparative obscurity other interesting *antikas* which were unearthed at the time; so we are not surprised to find that Mr. Grenfell's report to the Exploration Fund is to a great extent occupied with literary matters.

The statuette most probably came from the before-mentioned Graeco-Roman cemetery, west of the town, of the tombs of which Grenfell tells us many had been anciently plundered, and the most of the remainder were not earlier than the third century. One of several linen dolls, stuffed with papyrus, found at the same time, is to be seen in the Victoria and Albert Museum, and is, I am assured, correctly dated in the third century.

I should like to point out, too, though not necessarily as an argument, a curious resemblance between the head of our statuette and a head of white marble in the Musée Aloui, found at Zaghouan. The coiffure is similar in each and the austere features are not unlike. It, too, is of the third century.

All things then considered, we may safely conclude that the assigned date is approximately correct.

The question now arises whether the acceptance of this date excludes the theory that it is a Madonna and Child. There is no indication whatever that it need be regarded as a product of Christian art. In fact, such evidence as may be deduced would seem to point to the contrary. Prof. Lethaby, in his article, refers to the Hellenic feeling about the figure of the mother. This of itself does not of course militate against its being a Madonna, but the fact suggests at least a pagan influence; and the third century date of course excludes any Byzantine affinity as suggested by the Professor. On the other hand, Egypto-Roman statuettes of Isis and Horus exist which are decidedly Hellenic in feeling, although the cult of Isis never underwent Hellenisation in idea, as did most of the Egyptian deities. Again, Grenfell, in his report to the Exploration Fund, does not mention a single Christian relic as being turned up from the Graeco-Roman cemetery. On the contrary, he particularises short limestone figures carved in relief—two Gryphons and a Criosphinx—all distinctly pagan objects. If still further proof be needed it may be recalled that St. Augustine, who died A.D. 604, expressly states that the introduction of such visible objects as images into the churches, was in his day regarded as unlawful. Even pictures (other than symbolical representations) were not allowed in churches until well into the fourth century. The XXXVIIIth Canon of the Council of Elvira (A.D. 342) strictly forbade them. And although as time went on both pictures and images were tolerated, it was not until after the IInd Council of Nicaea (A.D. 787) that the Fathers encouraged their use. The theory of a Madonna and Child of the third century, therefore, is not to be entertained.



If not a Madonna, equally it cannot be regarded as a doll. If this idea had not been reiterated I should not have entertained it seriously. But having been put forth in all seriousness, the hypothesis must be examined. True there is a decided resemblance between the statuette and the "Holzpuppe" from Achmin in the Forrer Collection, and if the latter were proved to be a doll it might form an argument. But *is* the Forrer specimen a doll? I very much doubt it. In fact the more one studies these early statuettes, the more patent becomes the fact that they are, many of them, not dolls at all.

It is a demonstrable fact, that, from prehistoric times down to this present day, the little ones of the world have always had a decided preference for dolls that require to be dressed. That is to say they are, and have ever been, produced

for the most part in a state of nudity, which has grown more delicate and less obtrusive in these later days. There is nothing in experience more tenacious than such an instinct, and one may feel sure that figures invested with drapery in the modelling would not appeal to the child-mind. Moreover, both our statuette, and that figured by Forrer, stand upon pedestal-like blocks of wood,—surely an unnecessary and inconvenient appendage to a doll.

Quite apart from these considerations the fact that the statuette is a Mother and Child disposes of the doll theory *in toto*. Children are the same the world over and at all times. Their instincts are essentially primitive and therefore the more stable. Now a doll satisfies the incipient mother-instinct in every little maid, whether she live in Egypt or England—ancient Oxyrhynchus or modern London. Is it then to be supposed that any “little mother” would welcome as a doll a figure which itself holds a baby in its arms? I think not. Children do not play at nursing adult females with babes in arms. The doll is to them a baby, to be dressed and nursed, undressed and put to bed.

This same argument may be advanced, and quite as reasonably, with regard to the terra-cotta figurines mentioned by the Professor. A similar objection may be raised to all so-called dolls which are clearly adults,—in most cases plainly feminine.

If not dolls what then, it may be asked, are these figures? I think some are votive figures, some perhaps amulets; and the statuette we are considering may well be classed with the former. I have considered the possibility of its being Isis and Horus; this hypothesis was offered as an alternative to the untenable Madonna theory. Considering the matter further, however, there is no denying that there are objections to the idea. The greatest perhaps is the absence of any distinctive headdress on either figure. One would naturally expect to find at least some indication of such, but there is not the slightest trace of any having ever formed part of the figures. To this consideration may be added the unusual position of the child and its form. Also the general lack of that sensuous feeling one would expect to find in a statue devoted to the cult of Isis. If, however, we examine the object in the light of its being a votive figure the difficulties clear away.

The custom of placing votive objects at the shrines of deities and saints is of extreme antiquity, and at the time when our statuette was carved the usage was very popular, not only with the Egypto-Romans who were pagans, but also among the Christians. Intent upon the dominant influence of the period, we must yet grasp the fact that paganism was very far from being abolished when it was officially discountenanced. In fact, some distinctly pagan usages were tolerated even in the Christian churches. The practice of offering votive objects was one of these, and it even yet exists in many places, though at the Council of Lestines (A.D. 743) it was condemned as pagan. Theodoret in the fifth century, on the other hand, speaks in words of distinct approval of the practice prevalent in his day of suspending votive offerings in the churches.

A votive object was in effect a materialised prayer of: (1) Petition (as of the childless in hope of offspring); (2) Oblation (as of parents offering their children that the Divine blessing might fall upon them); or (3) Thanksgiving (on recovery from illness or escape from danger).

The statuette in question would possibly fall under the second of these heads, and I fail to see any serious objection to such a conclusion.

The ascribed date, far from excluding the idea, makes it probable, and whether it were found in association with Christian or pagan remains, the

probability is equally applicable. Moreover, such a figure naturally would be represented dressed, and the workmanship might be elaborate or distinctly otherwise (as in this case). It would be quite in keeping that the figures should be formal, and that the child should be wrapped in swaddling clothes (note the lower extremities of the child, how they terminate in a point). The unusual position of the child, too, is understandable in the supposition that the mother is offering her child as an oblation to the Higher Powers. This position of the infant, held forth with its back to its mother—its natural protector—and in such an attitude, seems indeed to give a finality to the argument that the statuette is indeed a votive figure.

Whether it be pagan or Christian it is impossible to say definitely ; in any case it is certainly pagan in conception.

CYRIL G. E. BUNT.

ARCHAIC BURIALS AT MARSA MATRÛḤ.

IN the winter of 1913-1914 I carried out, in conjunction with my friend Mr. W. J. Harding King, a brief archaeological survey in the vicinity of Marsa Matrûḥ. This place, which represents the Graeco-Roman Paraetionium, is situated on a small harbour¹ on the Marmaric coast, some 150 miles west of Alexandria. Because of its geographical position with regard to Cyrenaica and the Gebel el-'Aḳabah in the west, Crete in the north, the Oasis of Siwah (Ammonium) in the south, and the Nile Delta in the east, Marsa Matrûḥ had struck me, when I first visited it in 1910, as a very promising site on which to search for Libyan remains. This impression suggested by the geographical factors was further supported by topographical ones. Not only was the port the one good haven in the long stretch from Tobruk to Alexandria, but it had agricultural advantages as well. Between the coast at Matrûḥ and the rise of the desert plateau, some six or seven miles to the south, is interposed a great loess plain. Although the vegetation in Marmarica depends almost wholly on the rainfall, the richness of the soil and the size of the fertile area in the vicinity of Matrûḥ must have attracted and sustained a population at a very early period. The evidence of agricultural activity in Roman times (threshing-floors, vats, cisterns, olive-presses, etc.) are numerous; and in the late third, or early fourth, century of our era, Paraetionium was very naturally the centre at which the government grain-tithes were paid in.²

In the reconnaissance carried out by Mr. Harding King and myself, a great number of Roman burials and Graeco-Roman rock-tombs were excavated and recorded, together with other remains of a late period. With these it is not necessary here to deal, since in the present note I wish only to describe some archaic graves found about two miles to the east of the Coastguard Barracks at Matrûḥ.

The graves in question were five in number, and were situated on a small limestone spur which projected from the northern face of a long east and west ridge (Fig. 1). They were entered in the records as A. 1, A. 2, etc. The spur was conspicuous as having on its summit a modern Arab burial encircled—as is common in these parts³—by a wall of loose stones. The ancient graves were on the eastern side of the spur, near its highest part, about 30 metres above sea level. The place they occupied had suffered denudation from the action both of wind and of rain, so that in some places the bare rock was exposed. The disposition of the graves is shown in the photograph of the site after clearing (Fig. 2). The group was an isolated one; the whole spur, except at one point which was occupied by the modern Arab tomb, was carefully examined without the discovery of any other ancient interments.

The graves were roughly elliptical in plan, the average dimensions being about 1 m. 50 cm. (5 feet) from east to west, and *ca.* 110 cm. (3½ feet) from north to south. The average depth was only 30-40 cm. (12-16 inches), though originally, before the denudation of the spur, they were deeper. But even when they were

¹ The harbour was anciently larger than at present, having had a length of 40 stadia in Strabo's time (*Geogr.*, XVII, p. 798). Sand-bars of recent formation have, despite coastal depression, cut off the ends of the harbour, which is now flanked by lagoons.

² *Oxyrrhynchus Papyri*, IX, 1221 (p. 265). Isidore to Demetrian.

³ O. Bates, *Nomad Burials in Marmarica*, in *Man*, Vol. XIII, No. 10, Art. 88.

made they were dug a few centimetres into the soft limestone underlying the stony soil, which was therefore perhaps not very deep. The graves were marked in no discernable way whatever, though in their vicinity, on the west face of the spur,



FIG. 1. VIEW OF LIMESTONE SPUR CONTAINING BURIALS.

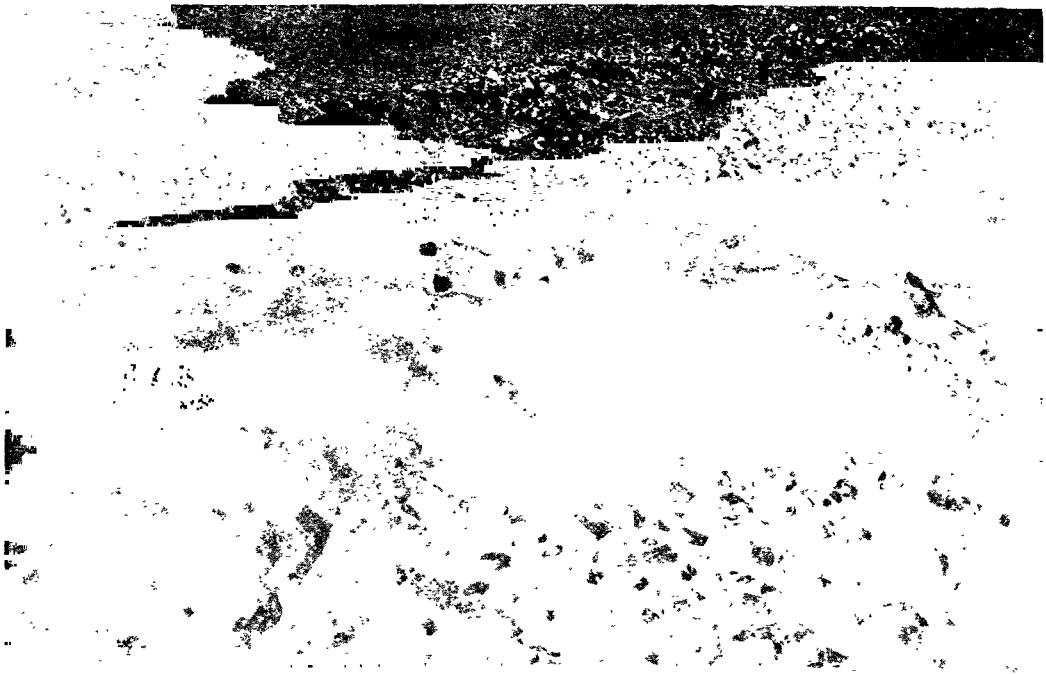


FIG. 2. POSITIONS OF GRAVES OPENED.

were a few little cairns of small stones, weathered almost level with the ground, and containing nothing. Such cairns are commonly found in Marmarica outside the cultivated areas, and are of a nature as yet unknown.

Of the five graves in Cemetery A, three (A. 3, A. 4, and A. 5) were found to be completely cleared out. This I attribute to denudation, which exposed the contents of the graves to consequent weathering or plundering. A. 1 and A. 2

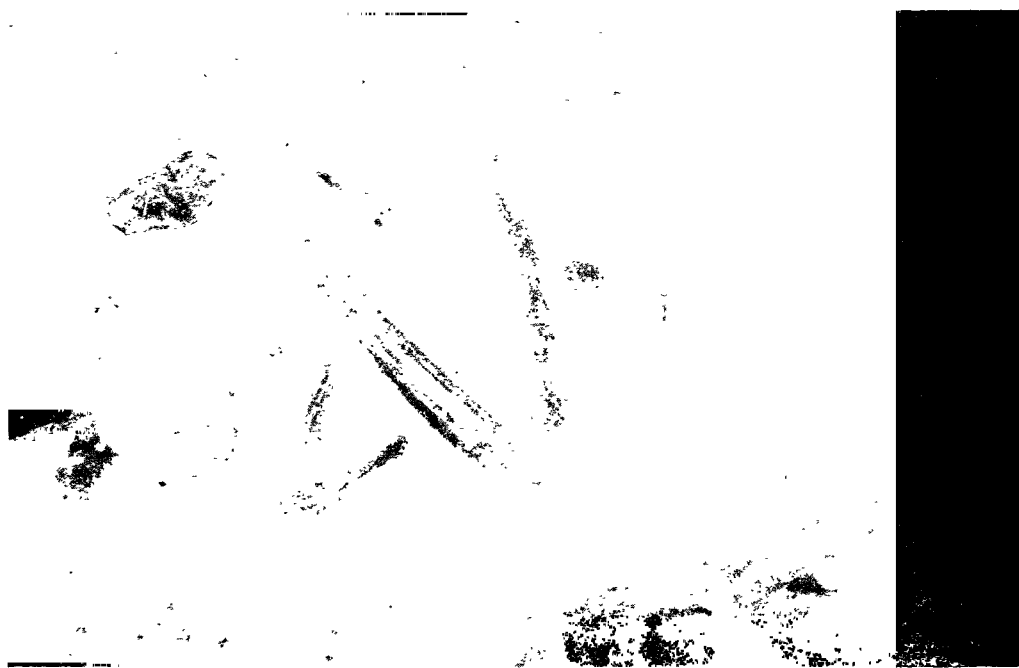


FIG. 3. SKELETON AND OBJECTS IN GRAVE 1.



FIG. 5. SKELETON AND OBJECTS IN GRAVE 2.

contained skeletal remains, the original form of the interment being clearly discernable, though the bones were in a hopelessly fragile state. A. 1 contained

the remains of a body lying on its left side, head east (Figs. 3 and 4a, b). The body was in a position of "intermediate" contraction, the right femur being at an angle of 90° to the spine. The left leg was less acutely flexed. The right arm was bent at the elbow, the forearm being practically parallel with the right femur.

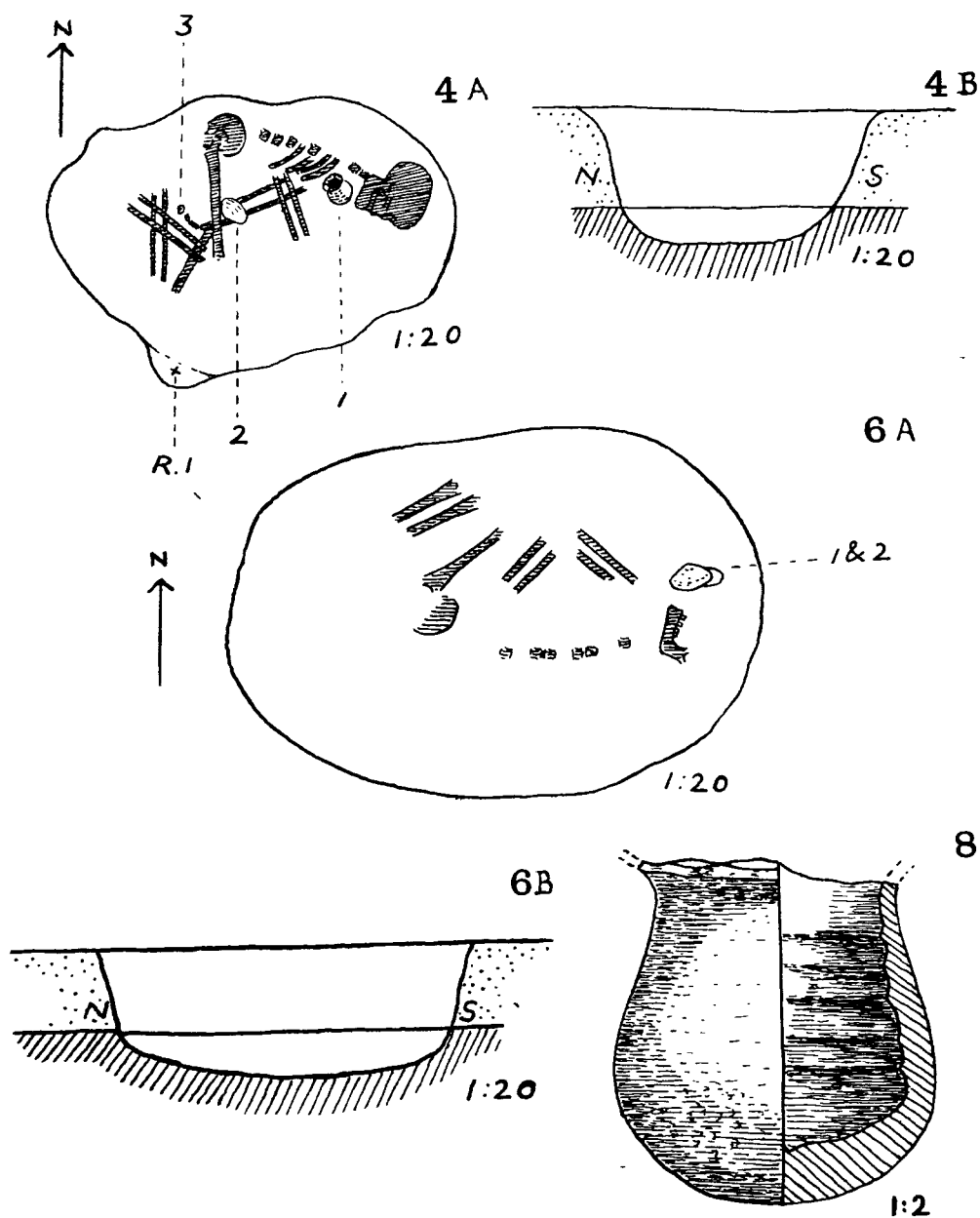
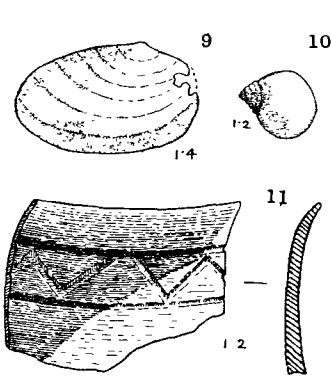


FIG. 4, GRAVE 1. FIG. 6, GRAVE 2. FIG. 8, BASALT VASE, GRAVE 1.

The left arm was straight, the left hand thrust between the knees. A. 2 was in a worse state of preservation than A. 1. In this second case the body lay on the right side, head east (Figs. 5 and 6a, b). The left elbow was bent, the left hand having been somewhere near the face. Of the head nothing remained beyond a fragment of the lower jaw and six teeth.

Contents: A. 1 (110 × 76 × -35 cm.) contained:—

$\frac{A.1}{1}$. A small jar of basalt, placed between the chin and throat (for position, Figs. 3 and 4a; Fig. 7; Fig. 8). Height, 9.0 cm. (minimum); diameter at widest part, 8.3 cm. The boring had been done with a winged drill, which scored the interior of the walls horizontally (Fig. 8.) The bore expanded so as to follow approximately the outer walls of the vessel. Bottom, 1.3 cm. thick. Lip, thin (0.38 cm. at spring), and in no place complete. Short hair-like striae of polishing outside, and, in two places, traces of pecking.



FIGS. 9-11, SHELLS AND SHARD, GRAVE I.

$\frac{A.1}{2}$. Thin pearly shell (Fig. 9), found just above the right femur, lying hollow side up. The shell proved to be an *Iridina* (Lam.) of the fluviatile *Unionidae*—an important point, since it is thus almost unquestionably of Nilotic origin.¹

$\frac{A.1}{3}$. A shell near the left hand, in the angle made by the bent right leg. This shell (Fig. 10) was almost certainly intrusive, as these helices (*Helix nucula*) are very plentiful in Marmarica, and are often found, even at a depth of 50 or 75 cm., below the surface of undisturbed earth.

$\frac{A.1}{R.0}$. Several shards of pottery, apparently weathered out of the grave, and found on the surface.

Among these fragments, which were all from the same pot, was one piece of the lip, showing a zone of roughly incised decoration (Fig. 11). The ware was of a sandy, black fabric, pebble-smoothed inside, with traces of a greenish-black slip outside. The walls of the pot were fairly thick.

$\frac{A.1}{R.1}$. A vase of basalt, from the filling of the grave, ca. 35 cm. south of the left knee, 5 cm. deep (Fig. 12—the light spots in the photograph represent small deposits of lime which have formed on the outer surface of the vessel). Same technique as $\frac{A.1}{1}$, but with cylindrical bore (Fig. 13). Height, 8.7 (minimum); diameter across bottom, 11.5 cm. on minimum axis, and 11.75 on maximum axis. Lip, thin (0.30 cm. at spring), and in no place complete.

$\frac{A.1}{R.2}$. Fragments of a small jar from the central filling of the grave. When these were pieced together, about half of the original vase was missing, but the form was accurately determinable (Figs. 14 and 15). Soft, fairly coarse, buff ware; faint reddish tinge in two places, due to irregular firing; irregular black core in thicker parts, especially near bottom, due to same cause (see section shown in Fig. 15); some minute whitish specks in the clay. Inside of neck partly pebble-smoothed, outside wholly so. Height, 11.6 cm.; diameter across top, 8.2 cm.; diameter at widest part, 10.1 cm.; thickness of walls at rim, 0.5 cm.; at point below shoulder, ca. 0.9 cm.; at bottom, 0.6 cm.

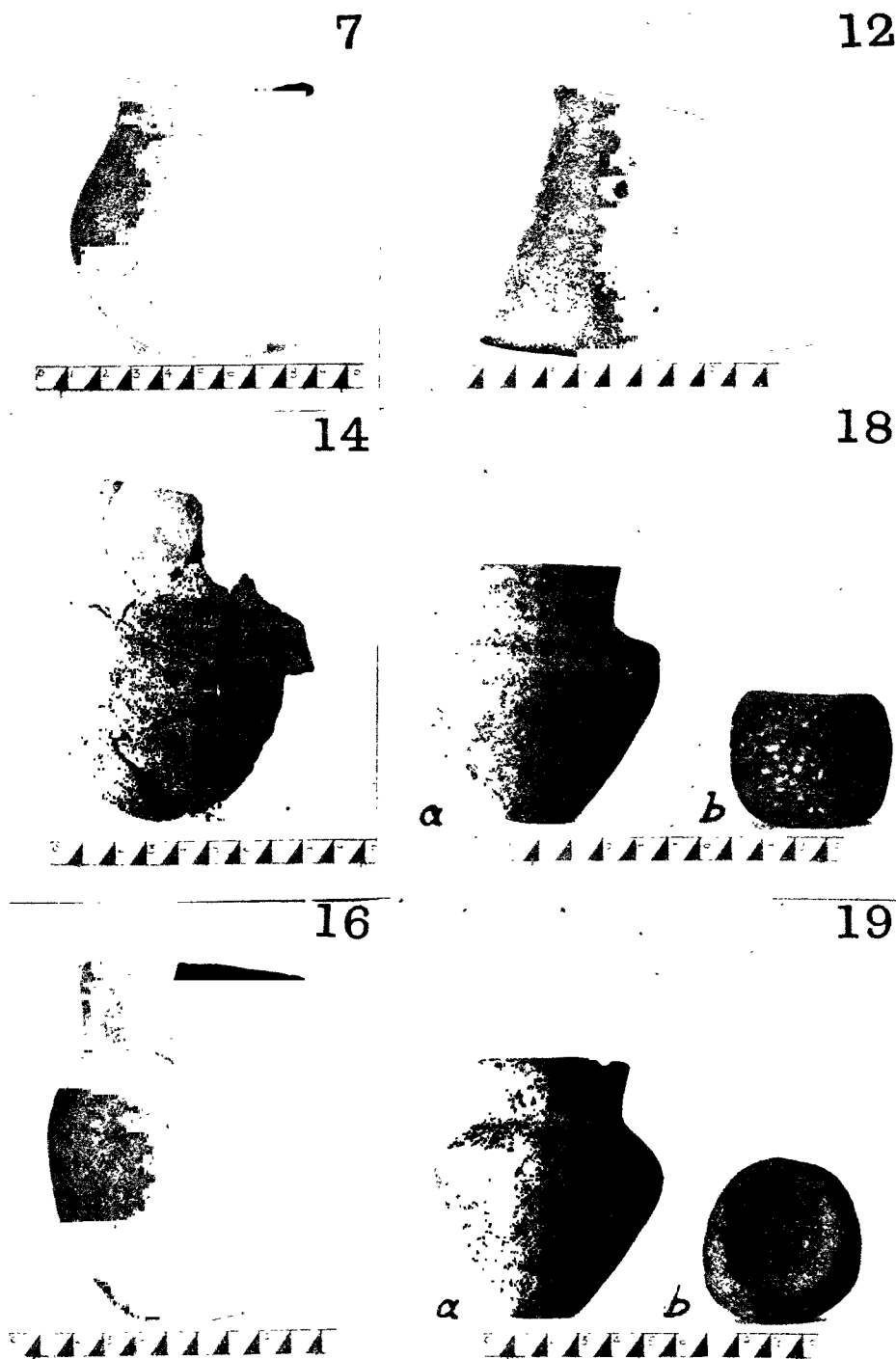
$\frac{A.1}{R.3}$ and $\frac{A.1}{R.4}$. Two *Iridina* shells, like $\frac{A.1}{2}$, found in the filling of the grave, just under $\frac{A.1}{R.1}$.

A. 2 (146 × 100 × -35 cm.) contained:

$\frac{A.2}{1}$ and $\frac{A.2}{2}$. Two *Iridina* shells, like $\frac{A.1}{2}$, $\frac{A.1}{R.3}$, $\frac{A.1}{R.4}$. The shells were found in front of the chin (Figs. 5 and 6a).

¹ I am indebted to Mr. W. F. Hume, of the Geological Section of the Egyptian Survey Department, for this identification, as for that of $\frac{A.1}{3}$.

A. 2
R. 1. Fragments of a small jar scattered through the central filling of the grave. When pieced together it was nearly perfect (Figs. 16 and 17). Fairly



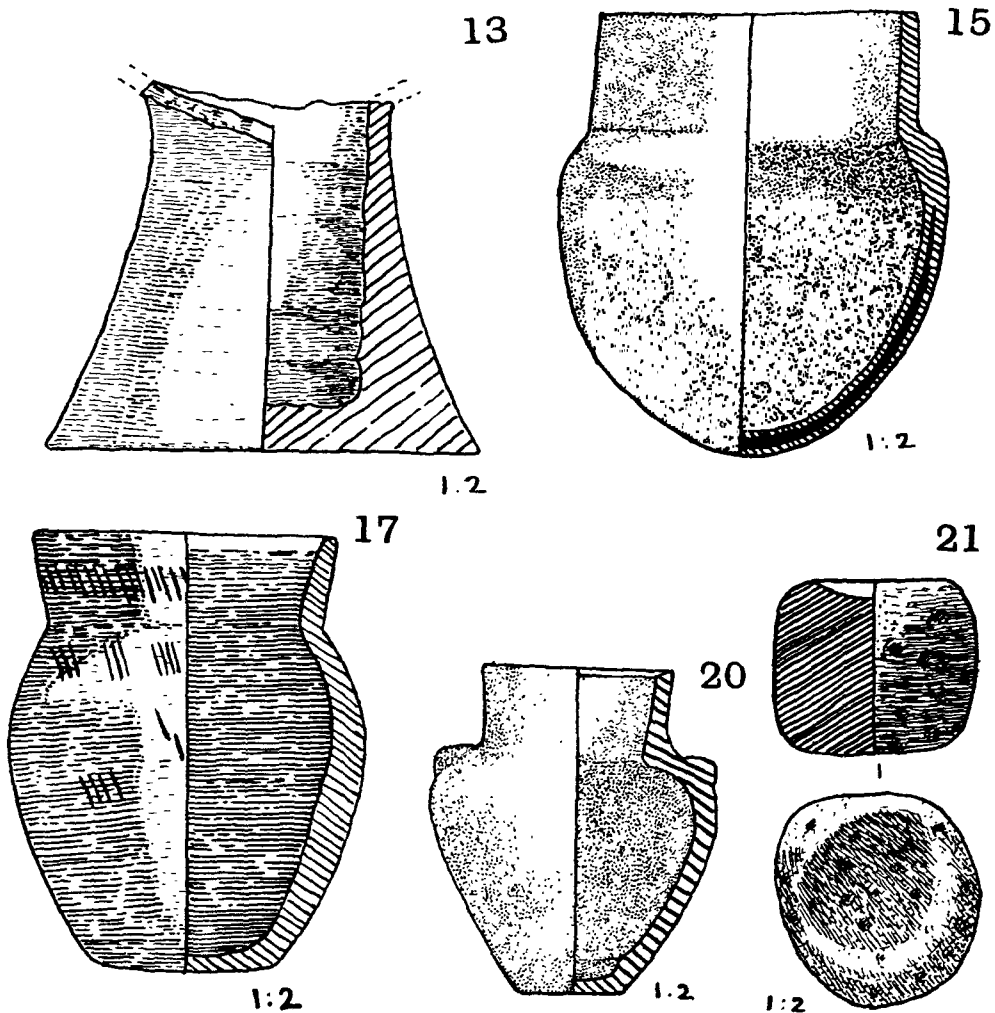
GRAVE 1.—FIGS. 7, 12, BASALT JARS. FIG. 14, POTTERY JAR.

GRAVE 2.—FIGS. 16, 18, 19, POTTERY JARS. FIG. 19b, STONE PALETTE.

hard, uniform gray-black ware, black inside, fairly thin, part smoothed outside and decorated with rows of faintly incised, short, nearly vertical strokes. When found,

it was sooty. Slightly irregular in form, *e.g.*, the outside diameter was 8.3 cm. on one axis (maximum) and 8.0 on another (minimum). Height, 11.5 cm.; diameter at spring of neck, 7.6 cm.; at widest part, 9.2 cm.; thickness of walls at middle of neck, 0.6 cm.; at a little below widest part of body, 1 cm.; at bottom, 0.4 cm.; width of bottom, *ca.* 4.0 cm.

$\frac{A. 2}{R. 2}$. Small jar from earth half way between A. 2 and A. 3 (for position, Fig. 2; Figs. 18*a*, 19*a*, and 20). Red ware, not hard, smoothed outside, and red painted; inside of neck partly smoothed. Conventionalized ears as shown. Height, 8.6 cm.; outside diameter of mouth, 5.0 cm.; of widest part, 7.6 cm.; of bottom, 2.8 cm.; thickness of walls, *ca.* 0.6 cm.



GRAVE 1.—FIG. 13, BASALT VASE. FIG. 15, POTTERY VASE.
GRAVE 2.—FIGS. 17, 20, POTTERY VASES. FIG. 21, STONE PALETTE.

$\frac{A. 2}{R. 3}$. Small mortar or "palette" from earth between A. 2 and A. 3. A spheroidal lump of purplish conglomerate with greenish-white inclusions (Figs. 18*b*, 19*b*, and 21*a, b*). Slight depression in the top, nearly circular in plan, and showing polish. Other parts show pecked surface. Height, 4.6 cm.; diameter, *ca.* 5.6 cm. and 5.2 cm.; depth of depression in top, 0.5 cm.

This completes the inventory of these two graves; the objects are now in the Peabody Museum, Harvard University.

It is hardly to be questioned that these burials are of Libyan origin: the objects associated with them are neither Egyptian nor Minoan, and the locality in which they were found lies well within the Libyan sphere. The absolute date of the graves is at present a matter of conjecture, but they are certainly pre-classical, and they show no trace of that Egyptian influence which made itself felt throughout this region in New Empire times. The two stone vessels $\frac{A. 1}{R. 1}$ and $\frac{A. 1}{R. 1}$ are identical in substance and technique, though not in form, with some of the finest stone vessels of Old Empire Egypt; and the mortar or "palette" $\frac{A. 2}{R. 3}$ is of a type which has been found in Nubian graves of the Archaic Period, the Old and Middle Empires. The pottery is all hand-made and not wheel-thrown. This is a point of some, though of slight, significance; for whereas the pottery of the modern Bedawin of the district is made by hand, all the wares of Graeco-Roman times—even the local fabrics—thus far found at Maṭrûḥ were wheel-made.

When the known factors of the case are considered,—the weathering and general aspect of the graves, the resemblance of the technique of the stone vessels to that of the stone vases and bowls of Old Empire Egypt, the analogy of the mortar to the similar ones found in Nubia, and finally the total disappearance by Graeco-Roman times of the culture to which these graves belonged,—I would tentatively assign these burials to a period between 2000 and 1500 B.C.; but until the accumulation of further evidence, it can be of no value to science to indulge too freely in such speculations.

Whatever the absolute chronological position of this material, one point is unquestionable: these burials stand not at the head of a sequence, but in an intermediate or final position in an otherwise unknown culture-scale. Much must lie behind the admirable technique of such stone vessels as those found in Grave A. 1; the bodies, although both so oriented as to have the heads east, lay on different sides and in different degrees of contraction, thus showing a careless departure from a presumably rigid primitive canon; and, finally, the ears of the small jar $\frac{A. 2}{R. 2}$ are purely ornamental, being conventionalized from an earlier form in which they must have been pierced for suspension.

Despite the slightness of these traces, their importance will be generally conceded. They hint at a whole primitive culture, hitherto quite unknown, and as rich, presumably, as that of Predynastic Egypt itself.

ORIC BATES.

PEABODY MUSEUM,
CAMBRIDGE, MASS.,
U.S.A.

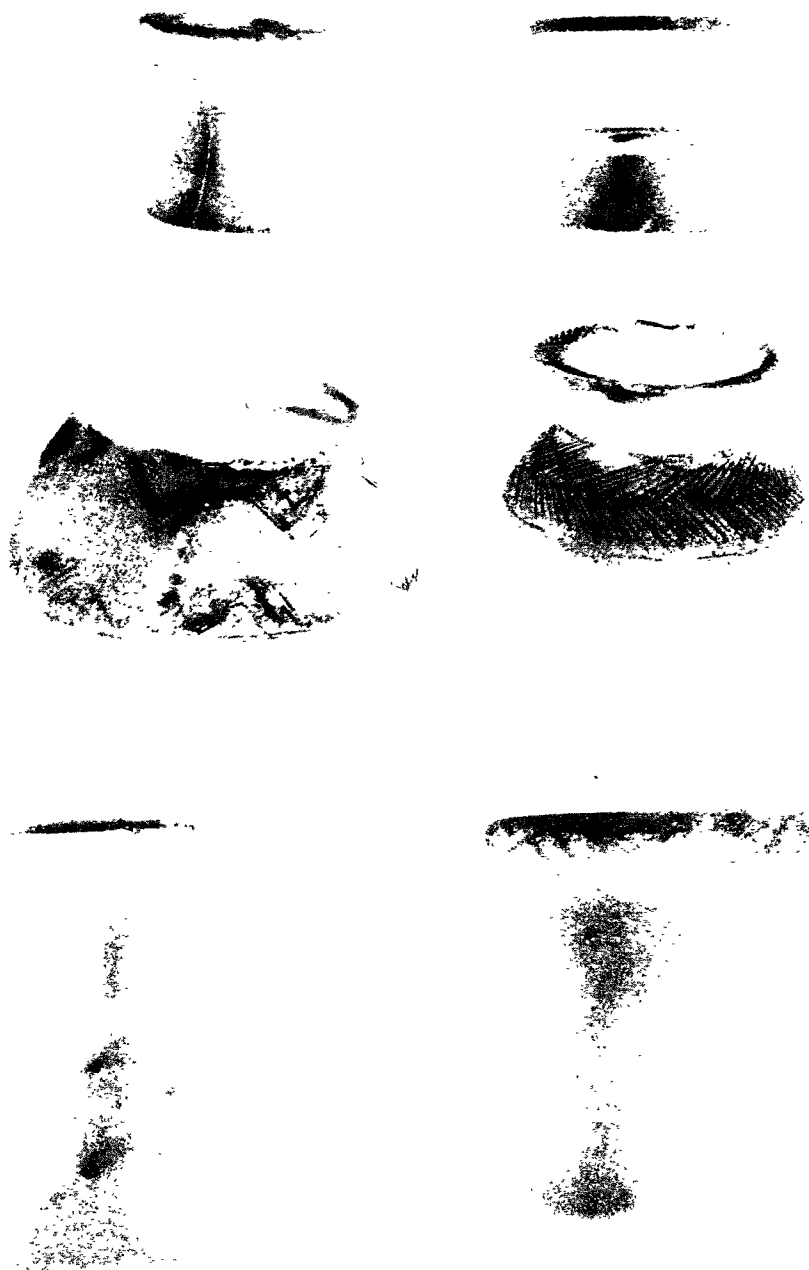
For years past, it has been a hope of archaeologists that some remains should be found belonging to the early Libyan civilisation. How important that culture was can be seen in the account of the vessels of silver and bronze, and the abundance of bronze swords, which were captured from the Libyans by the Egyptians, when they invaded Egypt under Merneptah. The discovery of even only two graves at once begins to open our eyes to other connections with Libya.

The peculiar form of basalt vase, widening to the base (Figs. 12, 13) is quite un-Egyptian; but it is almost exactly paralleled by a few vases which I have bought from time to time in Egypt. These stood outside of the Egyptian types, and had always been a puzzle; on comparing the alabaster Fig. 22, serpentine Fig. 23, and basalt Figs. 26 and 27, with Figs. 12, 13, there can be no doubt that they are all of one family. These four examples found in Egypt must then be Libyan importations. If there be an Egyptian origin for these it might lie in the wide-based vases of the VIth dynasty (see *Abydos*, II, xxi, 8, of Pepy). Knowing how that form had developed from a plain cylinder of the Ist dynasty, and how it went on to a trumpet-shaped vase in the XIIth dynasty (*Kahun*, XIII; *Diospolis*, XXIX, Y. 372), there would be nothing surprising in its widening out downward instead of upward, and so producing this Libyan type at about the XIIth dynasty. The vase 27 has had the base edge roughly cut away in a later time, and was originally like 26.

Another vase, Fig. 25, is also of basalt, and not Egyptian in type, but has much affinity to the basalt vase, Fig. 7. The hatching lines upon it seem to imitate basket work; and they connect with it the basalt bowl, Fig. 24. Such line work is akin to the line decoration of the pottery in the first prehistoric age of Egypt, which is Libyan in origin. The form of Fig. 25 is most like the globular vases of the XIIth dynasty, though they have smaller necks (see *Diospolis*, XXIX, W. 72, Y. 152, W. 32, W. 72). A wider neck was probably the earlier form, as in *D.*, XXVIII, Y. 8, W. 100, though the bases of these do not agree. We may gather then that the amount of similarity to Egyptian types gives a suggestion of a period between the VIth and XIIth dynasties, or perhaps in the XIIth dynasty, for both of these types.

These six vases (Figs. 22-27) which have been bought in Egypt without a history, and are now in University College, London, may then be set down as being probably importations from some Libyan source into Egypt. How much else may be thus discriminated by the light of further discoveries in Libya we cannot guess. No other vases of these forms are shown in the catalogues of the Cairo or Turin Museums, but probably there may be others lurking disregarded in various collections.

W. M. F. P.



STONE VASES BOUGHT IN EGYPT. Scale 2:3.
(UNIVERSITY COLLEGE, LONDON.)

FIG. 22, ALABASTER.

FIG. 23, SERPENTINE.

FIGS. 24, 25, BASALT, WITH INCISED BASKET-PATTERN.

FIGS. 26, 27, BASALT; 27 CUT ROUND THE BASE LATER.

THE EGYPTIAN MUSEUM, UNIVERSITY COLLEGE.

THE starting point of the Museum, the Library, and teaching of Egyptology in London, was the visit that Miss Amelia Edwards paid to Egypt in 1874. She then began to take that interest in the country which led her to endow Egyptology by bequest. That endowment she would have fixed at Oxford or Cambridge, had women there been given the degrees which are due to them by examination. As those Universities would not do justice, she turned to London where no disabilities rested on any class of student. She left her property for a modest endowment of teaching in London, and she began gathering a few antiquities to add to those which she had bought when in Egypt. From the excavations of the Egypt Exploration Fund various objects of no great value were granted to her "for a museum." Thus it came about that when, owing to the complications of an accident, she died unexpectedly early in 1892, there were not only her books on Egypt as the basis of a library, but also a collection which would fill three or four glass cases, as the nucleus of a teaching collection. It had been her wish that I should take up the work at University College; and on her death, and the establishment of the chair there, I accepted the position which was offered. Thus there passed again into my care many of the things which I had found, as nearly all her collection had come from my excavations.

Meanwhile, another collection had been growing. When I first went to Egypt in 1881, I began nibbling at the flow of antiquities in dealers' hands. A few pounds the first year, were followed by increasing amounts spent each year as I got experience. When excavating privately, a share of the antiquities that I found also came to my own collection. It outgrew two rooms, and was stored in boxes, when the unexpected move to University College gave space, in part of the old engineering drawing school, to set out what I had, as a loan collection. I had by that time acquired a preference in the Egyptian market for some kinds of antiquities which were saved for me by different dealers, so that scarabs, tools, stone vases, and other classes of things came readily to hand. I never had the advantage of continuously living in touch with the Cairo dealers, or having time to go ferreting out important matters in the country. These advantages which many residents had, were to some degree compensated by the visits which some of the country dealers used to pay me on their way to Cairo, where I saw the best of their stocks on the road. Good things have turned up in the most unexpected manner. An old dealer from Mellawi brought a handful of scarabs one day; among them lay the heart scarab of Akhenaten, which he only regarded as being big and having a silver plate. A Gizeh dealer appeared at my wall one day, and handed over to me the cylinder seal of Khufu's Pyramid, but he well knew the value of it. Another day the gold ring of the prefect of Egypt under Antoninus was dropped into my hands in the same way. I called in Cairo on a friend who had just come down the night before, and seen the opening of the passage of the tomb of Amenhotep I at Thebes. The next person I met was a very meek little dealer from Thebes, who had also come down the night before, and who put in my hand the gold ring of Amenhotep I. One evening when I was in Cairo, the dealers who besieged the hotel after dinner came in, and one rolled out of a bag the head of Nar-mer, the finest piece of Ist dynasty sculpture that is known. I bought in Cairo an alabaster figure of archaic Greek work, and then asked where it came

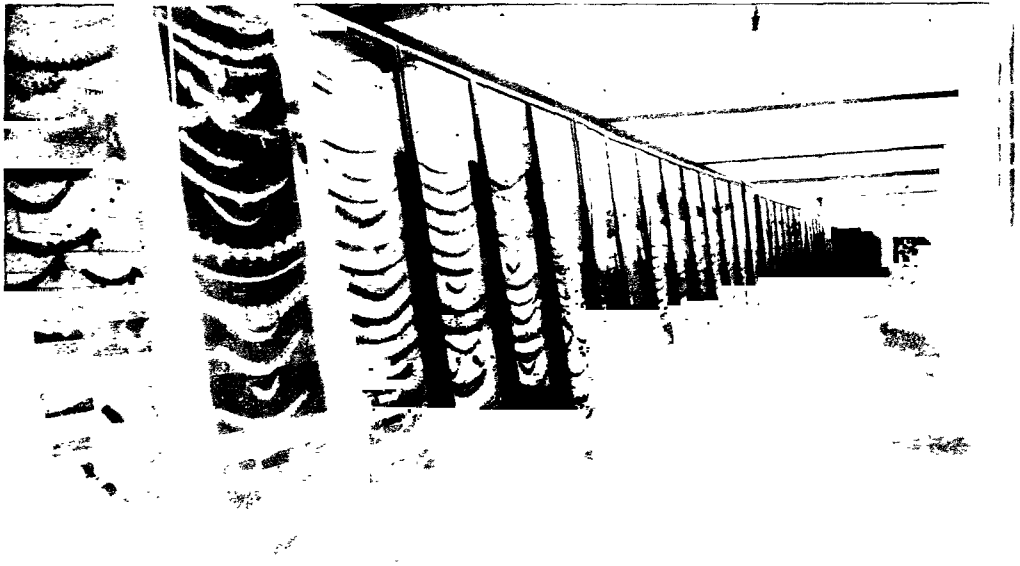
from. I got the name Nebireh, and went to search for it in the Delta. There I found Naukratis, the greatest settlement of the early Greeks in Egypt. Such are some of the most agitating moments of an archaeologist's life, when a splendid prize comes most unexpectedly into one's hands, as if it were an every-day matter. There was no public pocket behind my endeavours, to ensure that I could secure whatever was worth having. But I never bargained, or advanced my offers. One single bid was made; and it was so well known that such was my limit, that unless a dealer felt certain of getting more elsewhere he generally accepted the valuation. The better a man knew me the more certain we were of doing business.

Thus gradually there was accumulated a hoard which lay in layers piled on sheets of paper one over the other in the few cases at the College. Stores of larger objects had to lie out in ever increasing soot and dirt about the room, far too many and too tender to let cleaners work at them. Stones became hopelessly grey, pottery was smashed by brooms and scrubbing, and the accumulation seemed getting beyond my control. The moving of the Yates Library gave some space; and then the College agreed to take over the whole collection within five years. The ordering of the requisite cases was the next matter, spun out over three years owing to the smallness of the annual grant. After they were made by one of the best-known makers, and the objects partly arranged, they proved to be of such badly seasoned wood that they had to be sent away again to stop the cracks, making much more delay. Then a first-class maker was tried, who did excellent work, but who used material which warped so that all his cases had to be sent away after six months and remade. Little by little the changes were pushed through. The library was moved to a different part of the room; the piles of dusty stores were all cleaned, worked over, and arranged; the cases were put in order, labelled, and numbered throughout in sections from 1 to 999. Thus at last the whole appeared in public condition at the Exhibition held during June, 1915. The cost of the collection, which the College agreed to recoup, was mainly met by the generosity of Mr. Walter Morrison, and also largely by Mr. Robert Mond. For the first time, a teaching collection of Egyptology has been put in shape, arranged to show the historical development of the principal products, with almost all the objects dated. There is no other dated series of pottery, beads, scarabs, tools, ushabtis, or stone vases, which is of anything like the same extent. The means of systematic study of Egyptology were at last provided, and on a scale which the original foundress could never have anticipated.

To give some idea of the collection to those who are not able to use it, some general views are here shown, and the various sections are outlined. The room containing it occupies the top floor of one wing of University College, 120 feet long and 50 feet wide. About a fifth of this space is occupied by the Egyptian library, workroom and stores, and spaces too dark for exhibition. The remainder is filled with glass cases as closely as may be. The lighting varies in different parts, skylight, clerestory and side window, but is better than in most museums; accompanied by excessive heat and cold according to the season, owing to being mostly under a low glass roof. The cases were planned to suit the light in each position, so as to gain complete lighting, without reflections of skylights being so terribly in the way as they are in many museums. For this, the table cases under the skylights are sloped at 45 degrees, and thus the reflections of sky from them give a front light on the upright cases alternating with them. Lower slopes and flat cases come under the solid roof. A sort of glass gallery, 90 feet long and 5 feet wide, serves to hold the series of pottery. Shallow cases hung along the

room hold the hundreds of bead necklaces, with light falling through them. Lastly, sculptured blocks are each boxed with glass front, and glass top slip to light them, so that they can be stacked in walls, self-supporting. As the cases are thus adapted to the conditions, so the arrangement of objects is ruled by the best position for each. Sculptures, scarabs and figures, which are in relief, with an oblique lighting; coloured objects with a diffuse light. The further details would only interest a curator, who has to face similar needs.

The series of pottery runs nearly the whole length of the room, containing more than a furlong length of shelving (see along the right edge of View 1). Yet even this amount of space is much crowded, and a far larger provision would be needed for anything like a complete series. This deals only with the historic ages;



VIEW 1. CASES OF BEADS AND LONG CASE OF POTTERY.

and the prehistoric pottery crowds on all sides another case 15 feet long (see View 2). All the varieties of this pottery, in forms and quality, need to be known by heart when excavating, as usually the shards found are the main clue to the dating of the ground. Thirty-five years ago, when I began to dig, pottery was almost unknown and disregarded, unless it was painted or of graceful forms; in the pre-scientific days it is said that Burgon let smash many a big vase until he found that they were painted Panathenaic vases, which only needed washing to be revealed and thought invaluable. The present generation has awoken to the elementary necessity of knowing pottery well, if we are to understand what we are about, in digging. After sectioning the stratified city mound of Lachish, and collecting all the varieties of pottery, it was possible to walk—or even ride—over town sites in Palestine, and date them at once without even picking up the shards.

Before that, no one could date a whole vase, let alone a fragment. This long series of over a thousand pots, from tall amphorae down to tiny saucers, is, then, the first study for an excavator, the very alphabet of his work.

The knowledge of beads is almost as important as that of pottery, and in European archaeology it is perhaps the most important, as beads are carried by trade over all countries, and hence serve to connect together the periods of culture in different lands. There are about seven hundred strings of beads here, nearly all dated, beside one or two hundred more kept in drawers. The cases are seen in View 1, hanging down the length of the room. The strings are in some instances on the original threads, others have been transferred in exact order on to new



VIEW 2. CASE OF PREHISTORIC POTTERY.

thread; such sets show what were the designs of the threading, and how colours were arranged. In most graves the beads are found loose, and we only know that they belong together; then the patterns of the original threading serve to show how they should be restored. In getting strings of beads from dealers it is pretty plain generally how far they are clean lots found together, or if they have been mixed with beads of other periods. Often a string will be of all periods, only fit for the tourist, and worthless for a collection.

At the end of View 1 is one of the cases of slate palettes in animal form. These are of a great variety, in eight wall cases here. They belong to all parts of the pre-dynastic civilisation, but come to an abrupt end at the beginning of the 1st dynasty, when they were last used by the poorer class, and not by the invading rulers.

The cases of palaeolithic flints in View 3 are the material from which the illustrations were taken for the articles on the Stone Age in Egypt, in the last two numbers of *ANCIENT EGYPT*. They all belong to ages before the continuous civilisation which we find in the predynastic times. The series of the predynastic flints is much larger than the palaeolithic, but being of lesser size they will not show clearly in a general view.

The early dynastic vases and small objects, in View 4, date from the close of Dynasty 0 to the close of Dynasty II. The head on the upper shelf is a sculptor's

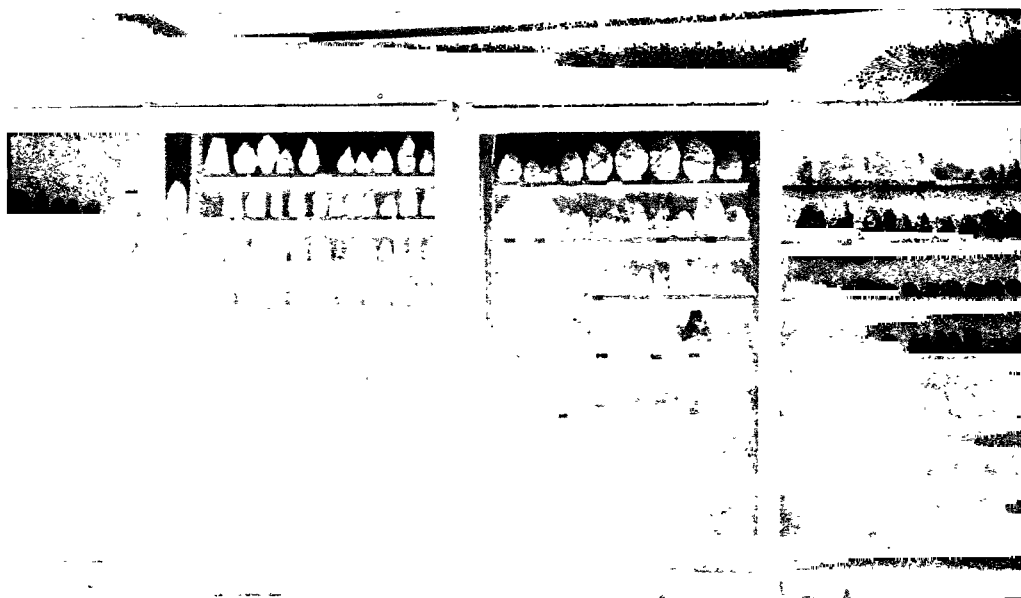


VIEW 4. CASES OF VASES OF 1ST AND IIND DYNASTY.

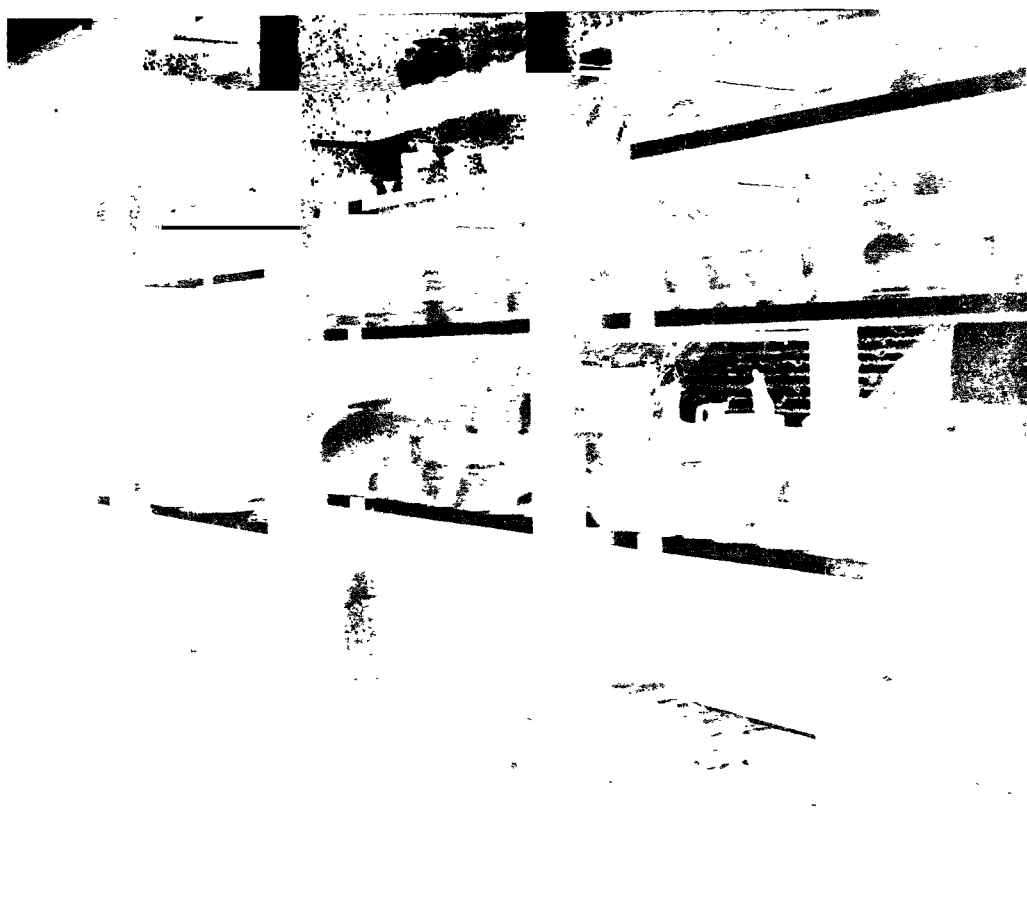
study, which so closely resembles the profile of Nar-mer on his slate palette that it is almost certainly that king himself.

The pyramid period is represented by the cases of stone vases; they are nearly all of hard rocks, as granite, diorite, quartz or metamorphic. Further on is the alabaster, which became more usual in the Vth and VIth dynasties, and almost the only material in the Xth–XIVth dynasties. In the XVIIIth dynasty to Roman times, only soft alabaster and steatite were worked, and mostly in small sizes, as seen in the next case. (View 5.) Metal vases of all periods are in a further case.

The scarabs and small objects with royal and personal names number over 2000, and there are about 1200 with designs upon them. These are too small to



VIEW 3. PALAEOLOGITHIC FLINTS.



VIEW 5. CASES OF METAL AND ALABASTER VASES.

be shown in a general view, but are the more important part of the collection, as illustrating the variety of style and work throughout Egyptian history. Two hundred and seventy royal personages are represented and three hundred private persons, forming the most continuous series that there is. This is about equal to all the national collections of foreign countries put together. The designs have also much interest. The geometrical patterns are often most exquisitely outlined and cut. The figures of the gods include the rare foreign deities Sutekh, Astarte, Qedesh, and the Vedic wind-god Vatu, which is another link of the Aryan deities with the Mediterranean world. The case of button seals will some day be the key to one of the darkest ages of Egypt, the fall of the Old Kingdom. These seals



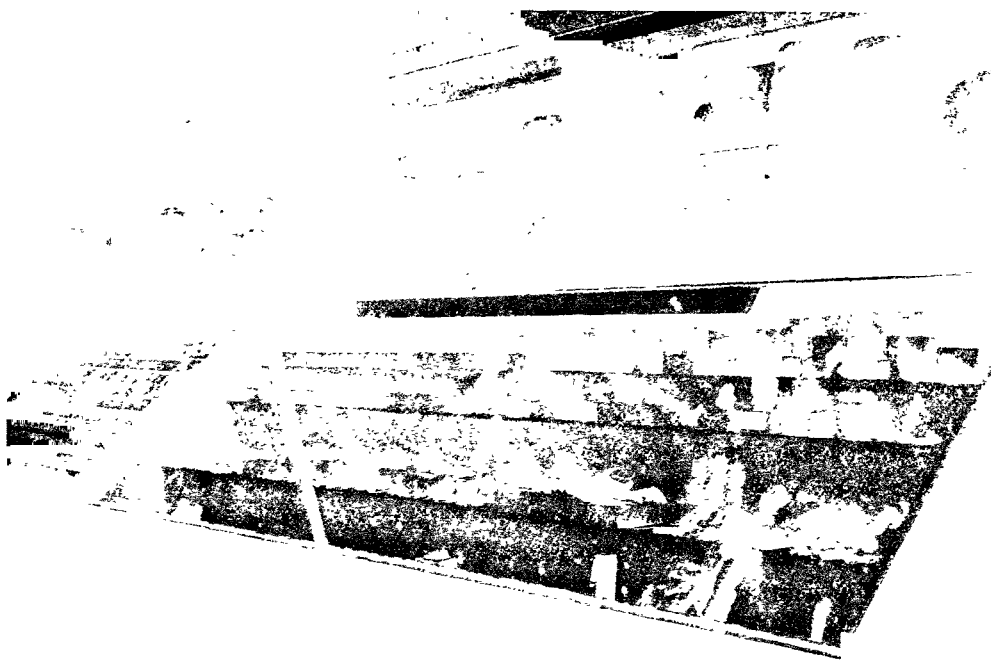
VIEW 6. FIGURES OF THE MIDDLE AND OLD KINGDOMS.

were all made by foreigners, and the connections of them, so far, lie with Mesopotamia. Another case contains about half of the early cylinders that are known, and casts of most of the rest. This series shows the earliest group of inscriptions, older than any of the other monuments.

The figures of gods and persons are arranged according to period. Here the figures of the XIIth dynasty and earlier times are shown in View 6; six other cases contain those from the XVIIIth dynasty to Roman times. The classification by age greatly helps in grasping the character of each stage of art; it is ascertained from the names on the personal figures, the dedicators' names on the figures of gods, the localities, and the characteristics of work, so that very few pieces have any uncertainty as to their historical position.

The larger heads of various periods are placed in one line for comparison (View 7). The earliest, beginning at the right, is one of the heads made separately for burial in the tombs of the IVth dynasty. Next is a head of Amenemhat III of the XIIth dynasty, which was published in *ANCIENT EGYPT*, 1914, p. 48. Then a beautiful pair of busts of the XVIIIth dynasty; this and the previous head were of the Edwards' Collection. Other heads of later times follow. The second case contains the plaster modelled heads of Graeco-Roman age, which are of far better work than the stone sculpture of the same time.

On the small shelves below are the lesser figures, which are seen better thus than in an upright case. The group at the right is a curious class of glazed figures, made under foreign influences, probably about 800 B.C. In some of them Assyrian design is obvious. Beyond are bronze figures. In the further case (unopened) are the seals and engraved stones.



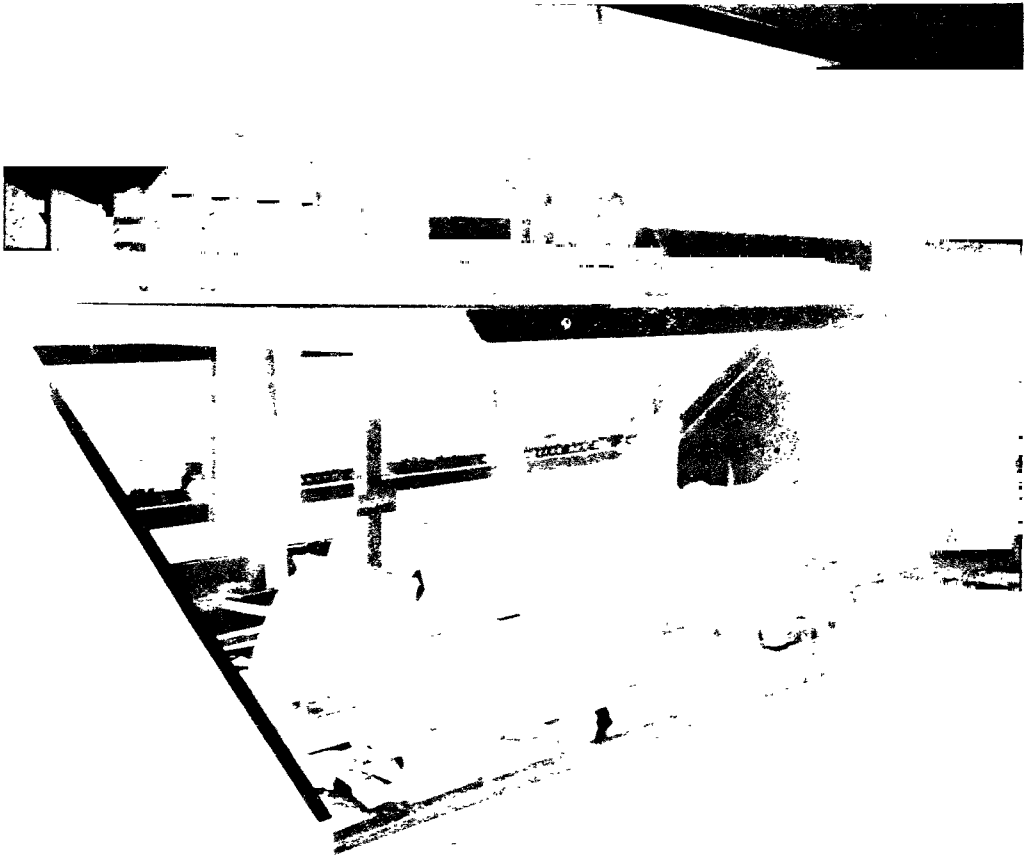
VIEW 7. HEADS FROM ROMAN TO EARLY PERIOD.

The long series of heads of foreigners, modelled in terra-cotta, which were found at Memphis, are all here. A part of them are seen at the top of View 8. The original purpose of them is quite unknown, as no bodies according with such heads have been found, yet they are all broken off from some support. The age of them is indicated by the prominence of the Persian army,—king, officer, and Scythian cavalry, while only one of the latest appears to be a Macedonian. Probably they range through the fifth and fourth centuries B.C. Whenever a collective study of the racial types of the ancient world shall be made, it will be possible to identify the majority of these heads, which remain still unplaced.

In the case below are the stamps of various periods. The largest is Arabic, most of them are Roman, but small stamps go back to 1000 or 1500 B.C. They were used for marking property; the larger for piles of flour or grain to prevent pilfering, or for sealing mud seals placed over the wooden locks of doors, as is now done. The smaller were used for sealing wine jars and lesser objects. Beyond them is a part of the case of figures of the XXVIth dynasty.

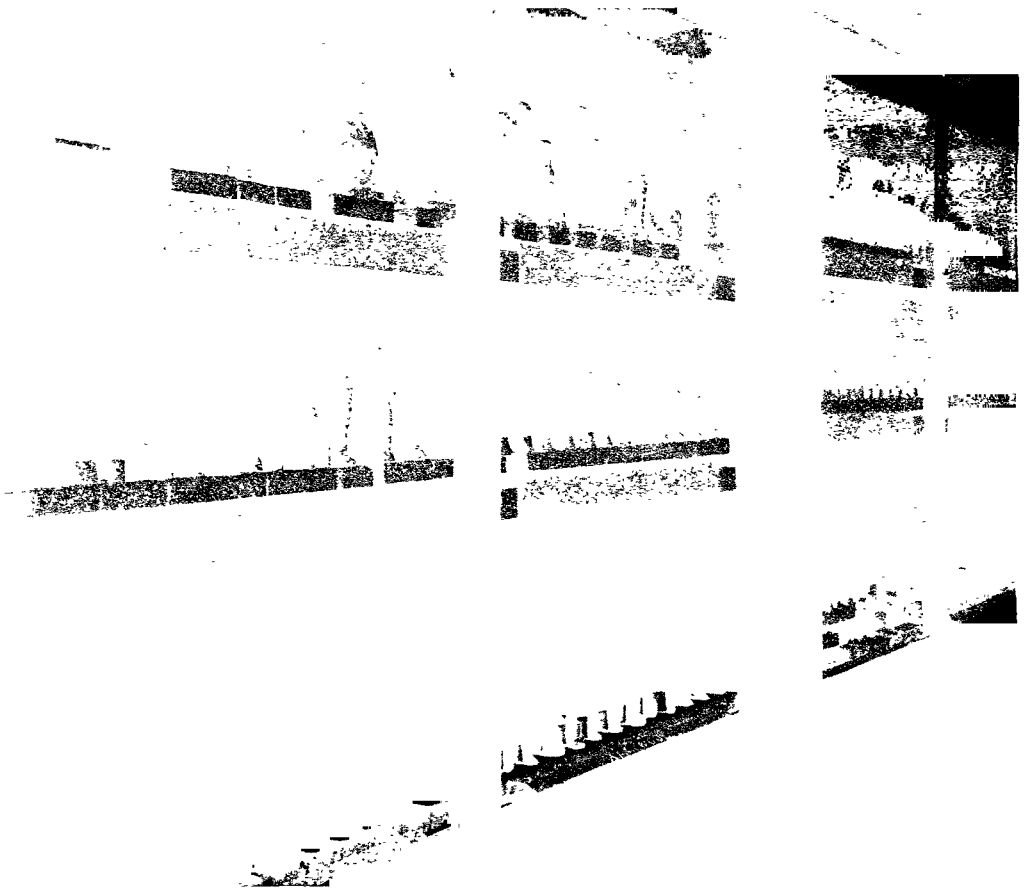
The long series of amulets we need not notice here, as they have been all published in photograph. There are over two thousand amulets, comprising nearly the whole of the two hundred and seventy different kinds that are known; this is by far the most complete series that has been collected.

The ushabti figures are the most familiar of all Egyptian products, being brought over by the thousand every year in the hands of tourists. The series here has been weeded of duplicates and arranged to show the varieties of style in each period. In View 9 the earliest are on the left hand at the top. A few figures are known, of mummy form, dating from the XIIth dynasty; but none of them have the Chapter of the Book of the Dead with reference to the

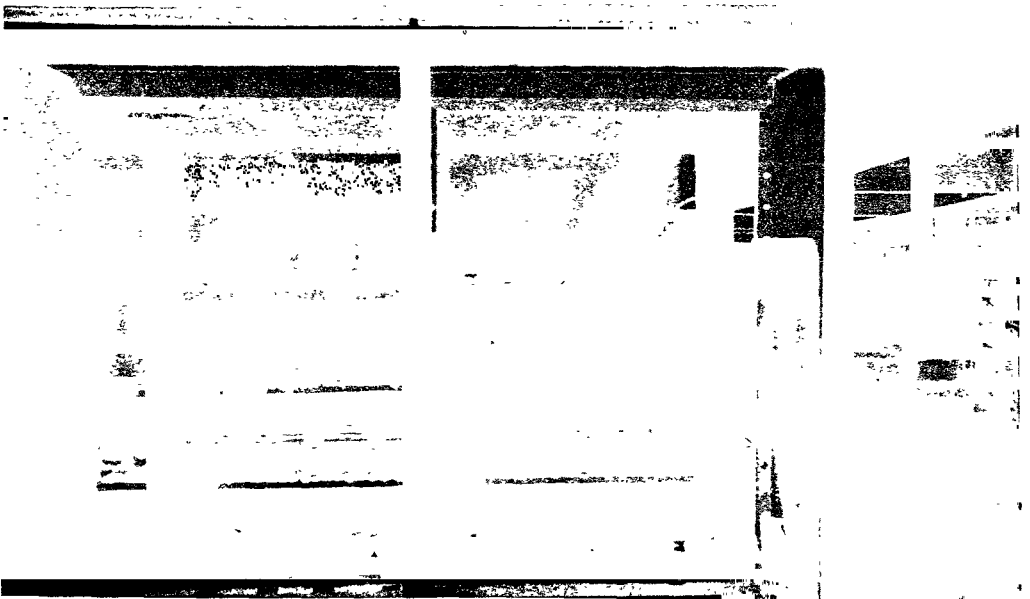


VIEW 8. HEADS OF FOREIGNERS. ENGRAVED STAMPS.

ushabti, or agricultural serf, who was to do the farming in the Other World. Such figures represent the deceased person, and sometimes have an inscription of *nesut da hetep* for him. The earliest of the wooden figures of the New Kingdom, the very rude ones of the XVIIth dynasty, also have such an inscription. It is not till the XVIIIth dynasty that the serf-figures became the usual accompaniment of a burial. The finest here is the largest one for Nehi, viceroy of the Sudan under Tehutmes III, which is beautifully engraved. From that point the ushabti declines until the XXIIIrd dynasty, when it was degraded to a little bit of mud with traces of a head. In the XXVth dynasty it was revived in different style, and thence degraded down to the XXXth, when it disappeared entirely. It is remarkable how very different qualities of ushabtis are



VIEW 9. USHABTIS OF XVIIIth-XXIst DYNASTIES.



VIEW 10. MEASURES OF CAPACITY, AND WEIGHTS.

placed together in tombs. This suggests that they were the separate gifts of various members of the household, one fine one being from the eldest son, half

a dozen common ones from the family, and perhaps one or two dozen very rough ones from the labourers. This will explain how, even in a royal burial such as that of Sety I, there were ushabtis of every kind and degree of work. They were the substitute for the much earlier sacrifice of the royal household at the funeral.

Three cases contain the series of glass weights. Stamped glass had been used for amulets in the second century, and later for tokens and weights. Soon after the Arab conquest of Egypt this system became very general, and glass weights show stamps of makers and rulers over some five centuries.

The Egyptian weights and measures occupy several cases, there being here by far the greater part of all the known weights, of all sizes from seven grains up to two hundred-weight. The cubits and measures of length are rarely met with, and the series of measures of capacity has never been collected before. They are seen in View 10 arranged with the Syrian standard on the upper shelf, the Egyptian *hennu* on the second, and the Hebrew *log* below that. The rows of weights are seen in the case beyond.



VIEW II. CASES OF TECHNICAL SPECIMENS.

The general View II will show the extent of this more technical side of the collection. Near by are the Coptic cases, and the stone sculptures in glazed boxes stacked together. Beyond are the weights, moulds, tools, minerals, toys, etc. The sculptures are seen in View 12; those of the XVIIIth-XXth dynasty at the back, and nearer at the right those of the Old Kingdom. Each stone is boxed, with not only a glass front for seeing it, but also a slip of glass along the top to give direct edge-lighting on the relief. In ordinary glazing, when all the oblique lighting has to pass through the front, nearly all the light is reflected away, and in any case the edges are dark. By a separate edge-lighting the whole face is well shown. Such a series of examples of sculpture of all periods, from Ist dynasty to Coptic, is required to train the eye in varieties and details of style. For this purpose they should all be put close together, so that a large mass of one period of relief can be seen at once, and a general impression of style produced on the mind, in a way which scattered examples cannot do. Other sculpture, which is not flat for boxing in this way, is put in small cases along the side of the gangway up this part of the room.

The great profusion of the glazed trinkets, pendants, and inlays for wall decoration, were made in pottery moulds, of which there are many hundreds of varieties, placed here along with the objects which were made from them: This manufacture arose at Tell Amarna in the XVIIIth dynasty, and was thence continued on a lesser scale down to Greek times. The art of Tell Amarna is further shown by the stone sculpture, and inlaid hieroglyphs cut in stone; also the great variety of coloured glazes for beads and pendants, inlay in stone walls, and dishes for table service. Other cases contain a series of glazed objects from the Ist dynasty to Roman times, in historical order. These serve to teach the varieties of colour and treatment of glaze throughout their history. Other cases



VIEW 12. SCULPTURED STONES IN GLAZED BOXES.

contain the series of the manufacture of glass, showing each stage from raw material and crucibles to finished vases, as made in the XVIIIth dynasty. There is also a quantity of glass mosaic and other glass-work of the Roman age.

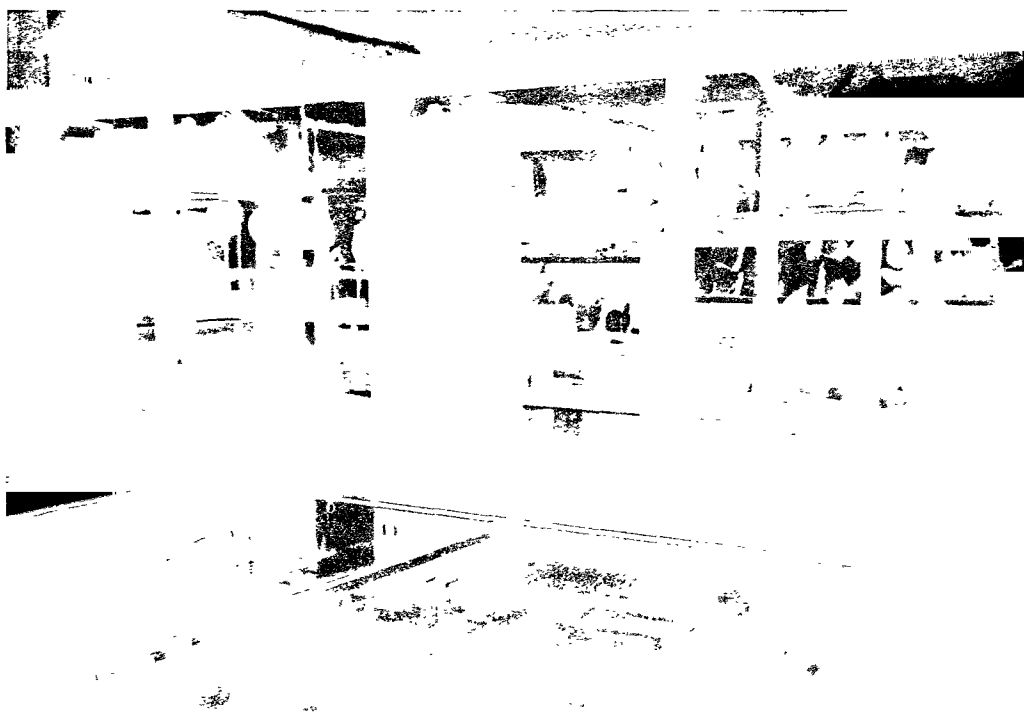
Beyond this are cases with examples of mummification, pieces of coffins, cartonnage, and the various funeral offerings, linen inscribed with scenes from the Book of the Dead, wooden labels for mummies, pottery houses for the soul, and other funeral furniture.

The next cases contain examples of spinning and weaving of all periods, spindles and whorls and pieces of looms. Beyond are mirrors, some with figure handles, others of lotus leaf form, and one engraved. The later mirrors of Roman time were of glass coated with thin pewter on the back, like a silvered looking-glass; all such are of thin blown glass, convex, and diminishing, like mirrors in

fashion in the eighteenth century. Adjoining are the varieties of kohl pots, spoons, tweezers, hair-pins, and hair curlers. In the next cases are metal necklets, bracelets and earrings, and a series of headrests from the IIIrd to the XVIIIth dynasty, in historical order. Other cases contain the minerals and the shells found in Egypt.

The tools are an important section for their variety, and for their being dated in many instances by inscriptions, or by groups in which they were found. Thus a continuous development can be traced in the forms of the axes, adzes chisels, knives, etc. The cases of wooden tools are shown in View 13, containing brushes, locks, mallets, winnowing fans, hoes, throw sticks, and many other forms.

At the end of the room are cases of stone and plaster work, and architectural pieces; these show the methods of cutting stone, the large use of plaster for casting models for students, and the trial pieces of students' carving.



VIEW 13. CASES OF WOODEN TOOLS.

Beside the exhibited material there is the collection of papyri of the XIIth dynasty from Kahun, a large series of limestone ostraka of the XIXth dynasty, and a great quantity of pottery ostraka with demotic, Greek, and Coptic documents.

When I first went to Egypt, thirty-five years ago, nothing was known of the technical or industrial history of the country. Whether beads were made in early times as well as late, what were the modes and dates of glass working, when various forms of tools were used, what was the method of stone working,—all was a blank. So little was known of pottery that Dr. Birch asked me to pack a box of fragments from each great site I visited, because from the known history of the great cities it might be possible to guess the age, and so get a clue to dating the pottery. Now every form, historic and prehistoric, is pretty closely dated, and we know far more of the history of Egyptian products than we do of those of Greece or Italy.

W. M. FLINDERS PETRIE.

PERIODICALS.



Recueil de Travaux relatifs à la Philologie et à l'Archéologie égyptiennes et assyriennes, Vol. XXXVI, 1914. Liv. 3-4.

RUSCH, RICHARD.—*Hethitische Zahlzeichen*. This is a disheartening style of paper, giving many resemblances of notation of numbers, without discrimination of what is probable, and without any historical grounds of connection. It seems very unlikely that the Greek use of Δ for ten can have arisen from the circle so used in Babylon, the obvious origin is the word Δεκα, just as II is used for five derived from Πεντε. It is also too much to claim the Latin use of M for 1,000, from the circle with a bar through it, when the obvious source is the initial of *mille*. Again X being ten in Roman notation, the use of half of it, V, for five is obvious, without trying to connect it with two sides of a square sign for ten in Babylonia. Such resemblances show that a strict requirement of descent is really necessary before we can come to any safe conclusions about the history of notation.

MASPERO, G.—*Les Monuments Égyptiens du Musée de Marseille*. This paper gives long detailed descriptions (without any illustration) of the coffins of Khensumes, Thentamen, Nubemusekht, Onkh-khensu, and Samertui. Though required in any comparative study of the details of coffins, it does not seem that the inscriptions contain any unusual features.

LEGRAIN, G.—*Recherches sur la famille dont fit partie Montouemhat*. II^e partie. *Les enfants de Khaemhor*, Chap. IV^e, *Branche Petamon*. This is a continuation of the paper already summarised in this Journal, pp. 24-26. It should be said as a warning that, in these papers, the genealogical tables are all reversed from the ordinary usage, and have the latest generation at the top. This paper deals with the family of Tabathât, who married Besenmut. The documents quoted are :—

- LXVII. Coffin of Tabathât.
- LXVIII. Bottom of coffin of Tabathât.
- LXIX. Wooden stele of Tabathât.
- LXX. Wooden board of Tabathât.
- LXXI. Ushabti box of Babau, mother of Tabathât.
- LXXII. Coffin of Peda-amen, father of Tabathât.
- LXXIII. Second coffin of the same.
- LXXIV. Stele of Peda-amen.
- LXXV. Coffin of Babat.

A large genealogical table of the Mentuemhat and Besenmut family, extends from the middle of the reign of Psamtek I back to about the beginning of the XXIIInd dynasty.

An annex on the Hammamat inscriptions quotes one of Nesiptah II, and one of Mentuemhat son of Nesiptah I.

MASPERO, G.—*Le Protocol royal des Thinites sur la Pierre de Palerme*. For the first time we are given a quotation on official authority from the early annals, which have been so strangely concealed for years past in the Cairo Museum, to the great confusion of students. This gives the full heading of King Khent, or Zer, who is stated to be Athet, the third king of the Ist dynasty. The name is written in a cartouche, which shows that such belongs to the beginning of the kingdom. The royal mother's name follows, *Khenfet*- with the figure of a priestess determinative, *Hapi*, with the usual female figure determinative. This word *Khenfet* seems, by the figure after it, to be a title. *Khenf* is a bread offering, clearly connected with *khenp* to offer, or present, and *khenp* an animal offered in sacrifice. It seems, then, to mean the "Offering priestess, Hapi." Sir Gaston Maspero is inclined to make one name of it, *Khenfet-hapi*, regardless of the determinative of the priestess. This passage is quoted as explaining the portion of the protocol of Neteren on the Palermo stone, which evidently shows the beginning of his cartouche, hitherto misinterpreted as part of his mother's name. Whenever the world is at last allowed the use of these most important documents, so long concealed, there will be many enquiries to be followed out from them.

SOTTAS, H.—*Étude sur la stèle C 14 du Louvre*. This is the well-known stele of Mertisen describing the variety of artistic knowledge. The paper is a comparison of the translation by M. Madsen (*Sphinx*, 1909, 242) and Sir Gaston Maspero (*T.S.B.A.*, 1877, 555), with reference also to those of Erman and Brugsch. No new result of importance is reached.

SPIEGELBERG, W.—*Der Koenigseid des demotischen papyrus Berlin 3080*. This is a contract of a sale of land under Euergetes II. The interest of it is in the formula of the oath by Pharaoh which concludes it, and a reference to the inundation of year 37 to 38. This is so stated because the full height of the Nile then was at the junction of the two years.

SPIEGELBERG, W.—*Ein Denkstein aus Leontopolis*. This is a tablet with a king offering to a lion god and a god of human form with a lion's head. The brief inscription shows that this is the lion-god Mau-hes of Tell Mokdam. The stele is at Hildesheim.

MERCER, S. A. B.—*The Gorringe Collection of Egyptian Antiquities*. The objects collected by the late Commander Gorringe, when he moved the obelisk from Alexandria to New York, have been lost to sight, but are now found and here described. The main piece is a fine stele of about the time of Sety I, showing the royal scribe, keeper of the harim, Ptahmes son of Any, offering to Osiris. Below the scene are seventeen lines of *nesut da hetep* and speech of the deceased. The stele was published from a copy in *Recueil* 1905, p. 29; but not quite correctly, as it was then lost to sight. There are, besides, two limestone sphinxes, a statue of Rameses II, many fine bronzes, about fifty amulets, some scarabs, terracottas, etc. It is intended to publish photographs before long, in this Journal.

SCHEIL, V.—*Nouvelles notes d'épigraphie et d'archéologie Assyriennes*. A bronze tray on wheels, 22 inches square, 5½ inches deep, was found at Toprak-Kaleh. The four wheels are 6 inches across, and there is a handle at one end of the tray. It appears to be a piece of temple furniture, analogous to the bases of brass upon four wheels for carrying the lavers in Solomon's temple. Those, however, were three or four times the size of this Assyrian example. It is strangely termed a chariot, by Père Scheil.

The three "kings of the East," whose names first appear in late Christian apocryphal writings, are here shown to occur in a Jewish magical formula as Qaspar, Keli'a'mar, Bleithazar. Kleia'mar is an inversion of Melchior, obviously formed from Melek; Bleithazar is a lisping form of Belshazar; and Qaspar, it is suggested, is an inversion of Rabshakeh, such a play on words is even directed in the magic formula, "whisper in the reversed order."

GARDINER, ALAN H.—*Notes on the Story of Sinuhe*. This article is mainly occupied with critical discussion of details of the text, in view of fresh material. It concludes with a valuable estimate of the general character of the composition. The story of Sinuhe (or Sanehat) was one of the most popular in the New Kingdom, and allusions to its phrases are even found in monumental inscriptions. In the style of it "it is a classic because it displays with inimitable directness the mixed naiveté and subtilty of the old Egyptian character, its directness of vision, its pomposity, its reverence, and its humour." These characteristics are just what belong to the modern Egyptian. The authenticity of the description of the travels in Syria is much doubted, mainly on the ground that the only place named is Byblos, which was well known and frequented by Egyptians. This seems hypercritical, for Sanehat would be most likely to go where he could hear about Egypt, without being in the least under the Egyptians. The absence of the names of less known places is of no more discredit than if an Englishman said he wandered through France until he reached Bordeaux. The date of writing, it is agreed, is early in the XIIth dynasty, as a MS. of the close of that dynasty is "some distance removed from the archetype." The form of the tale is so similar to the autobiographies in tombs, that the nucleus of it may well be derived from such a tomb inscription.

LACAU, PIERRE.—*Textes Religieux*. Texts from four sarcophagi of Bersheh, arranged in parallel lines.

RINGELMANN, MAX.—*Essai sur l'Histoire du Genie Rural en Phénicie et dans les colonies Phéniciennes*. Chap. I. *Mobilier*. Rough illustrations are given of various pottery forms, without the least hint of historical discrimination or dating. Periods from 800 B.C. to Roman are all mixed together; and types which are usual in Egypt and elsewhere, under Graeco-Roman influence, are quoted without discrimination as Punic. When archaeology is thus ignored, only confusion can result.

Vol. XXXVII, Liv. 1-2, 1915.

MASPERO, G.—*Les Monuments Egyptiens du Musée de Marseille*. This further instalment of long detailed descriptions deals with wooden sarcophagi of (60) Imhetep son of Onkh-hetemt born of Tenteri; (61) fragments with forged inscriptions; (62) panel with two mythological serpents, Nehub (perhaps = Nehebka) and Qesr (or the lance); (63) lid of a case of Khet son of Pemeraun; (64) coffin of Hernezatf born of Ta-nub-ne-hent. Stone sarcophagi are described of (66) Onkh-hapi son of Tada-asar or Thent-asar, the variation of name is curious; (67) of Penast son of Smataui and Tasmataui; reused later for Peda-asar son of Peda-her-pa-khred and Pesed; the long inscriptions of this are fully copied and dissected with translations.

SPIEGELBERG, W. *Koptische Miscellén*. On some small grammatical details.

BOUSSAC, P. HIPPOLYTE.—*Commentaire sur un passage d'Hérodote.* This deals with the mythological answer given to the geographical questions of Herodotos on the source of the Nile. The most curious point is that the idea of the Nile arising at the First Cataract was still held in Cairo at the beginning of the nineteenth century, when the Diwan in Cairo wrote: "From the place called Shellal where the Nile takes its rise, to the mouths in the two seas by the towns of Rosetta and Damietta."

BOUSSAC, P. HIPPOLYTE.—*Le Culte de la Déesse Bast dans l'Italie.* The extent of the worship of Isis in Italy was considerable; not only are there many temples of hers at Rome, but also at Pozzuoli, Tivoli, Tusculum, Nemi, Ostia, Porte d'Anzio, and Pompeii. Along side of this Isis worship appear also figures of Bast, suggesting a strong Bubastite influence among the Alexandrian-settlers. At Rome, Ostia and Nemi, Isis and Bast are associated, and at Scarbancia in Upper Pannonia there is a joint dedication to them. An inscription at Nemi gives an inventory of the jewellery of the divine figures. Isis had "a diadem, bracelets and collars with jewels; an 'alempsiac' crown of twenty-one topaz and twenty-four carbuncles, a collar of beryls, a girdle plated with gold, two robes, two tunics, two mantles." Bast had "a robe of silk, purple and turquoise green, a shirt of purple linen with two girdles, one gilt, two robes, two mantles, a tunic and a white dress." At Ostia an altar is dedicated "to Isis, to Bubastis. A silver statue of Venus, of a pound and a half in weight, a silver crown of three ounces three scruples, an alempsiac crown of five ounces and eight scruples, Caltilia Diodora Bubastiaca has given it by bequest." At Pompeii is a scene of a priest reciting from a papyrus, in front of a stele surmounted by a cat.

CLÉDAT, JEAN.—*Notes sur l'isthme de Suez.* From Pelusium comes (1) a fragment of a red sandstone shrine; also (2) a black granite weight of Nekht-nebef, of thirty-two kilogrammes. This is exactly the Roman centumpondium, though by its date it is probably the earlier form of the same standard, the Aeginetan, fifty minae. (3) A fragment of a marble inscription in Latin, names IVLIVS L . . . perhaps the Prefect Julius Lupus in A.D. 71. (4) At Kasr et-Tinch is a large ruin of an Arab palace of the twelfth or thirteenth century, like the tomb of Kalaun at Cairo. Near it is an Arab cemetery, with the graves under water level. This shows that the north coast of the Delta continued to sink more, for centuries after the great catastrophe of the submersion of the northern Delta. Two other cemeteries are Roman and Egypto-Roman, and a third is said to be of Greek age, but the inscriptions seem more like those of the first or second century A.D. One is for Ammonianos Kelenos, another of Theonilla, a third for Athanasioudis.

From Mahemdiah comes a weight of black granite, apparently two Phoenician minae, inscribed **TI** in Phoenician.

From El-Arish a Greek inscription of Alexander Severus.

From Qantarah comes a small portable sun-dial, measuring the height of the sun, and therefore independent of direction. In order to compensate for the seasonal changes, there is a column for every month, with the hours marked by dots in the space. By Pharmuthi being the midsummer month, this is dated to the fourth century B.C. M. Clédat does not explain it, and states that he knows nothing like it. A similar dial was in the Hoffmann sale in 1894, lot 456; but with Pauni for midsummer, and therefore about 100 B.C. Another, without names of the months, is in University College collection.

From Wady el-Reheiba (Rehoboth) several inscriptions have been brought, dating from the Christian period, with the names of Ioannes, Stephanos, Sergios, Maria and Steph . . los, perhaps Stephanthelos.

CLÉDAT, JEAN.—*Les Inscriptions de Saint Siméon*. A collection of all the Coptic inscriptions in the convent, revising and supplementing the copies published by De Morgan. Unfortunately scarcely one of them is complete, and most are badly effaced.

KEES, HERMANN.—*Eine Liste Memphitischer Götter im Tempel von Abydos*. The gods named are as follow :—(1) Ptah ; (2) Nun ; (3) Khent-tenent, or thenent, otherwise known as Ptah-tenen, or Ptah-khent-tenen (Ramesseum). Tenen was the popular name of Ptah in the XIXth dynasty ; and it occurs in the Old Kingdom as a priest of Khent-thennant. Neit is also called “Lady of Thenent.” It appears to have been a quarter of Memphis. (4) Zed-sheps, “the noble *zed* pillar.” (The worship of the *zed* pillar is shown by a *sem*-priest of the *zed*, named on a *menat* of Necho in University College.) (5) Em-khent-ur, to whom there was a priesthood in the Vth dynasty (Ptahshepses and Sabu tombs). (6) Kherbakef, “under his olive,” also named as a synonym of Ptah at the Ramesseum. (7) Em-khent-defent, of whom there is a priesthood. (8) Khent-aäutef, also named in a priesthood. (9) Ptah in all his dwellings in heaven and earth. (10) Ptah in all his seats of Upper and Lower Egypt. (11) Ptah in all his halls and palaces. (12) Ptah of foreigners in all his places. (13) Res-uza, also named in Pyramid Texts. (14) Her-khen, the first god here named without the determinative of the Ptah figure. (15) Nezem-onkh. (16) Aoh-remt. (17) Hetep-det. (18) Kherbâkef, again. (19) Res-uza, again. (20) Un-amakhef. (21) Shu. (22) Defnet. (23) Nepre and Hesä, the Corn-god and Nile-god. (24) Hetep-bâkef. (25) Repeats Khent-aäutef. (26) Herheruazef, “Horus on his papyrus plant.” (27) Herremen and Sesmu-am-nudef, who appear later apart in 43-44. (28) Sebek. (29) Zedui, the two *zed* pillars. (30) Zenbu of the south, Zenbu of the north. (31) Isis. (32) Nebhat. (33) The god of the gate of *per-hennu*. (34) Hapi and Mestha. (35) Horus. (36) Duamutef and Khebsenuf. (37) Uashes. (38) Hemaget. (39) Merymutef. (40) Her-tep-senuf, or Her-zaza-senuf. (41) Herher-qenbet-res. (42) Khnem-khent-anbuef. (43) Her-her-remenef. (44) Sesmu-am-nudef. (45) Anpu-am-ut. (46) Isis. (47) Nebhat. (48) Seshät. (49) Sekhmet. (50) Neferatmu. (51) Sekhmet-tep-aner. The reason for the repetition of some gods is that they were worshipped in different districts of Memphis, and they are here grouped according to the districts which are named over them. The names of these localities such as : “In the harbour of the east,” “The enclosures of the harbour,” “By the gate,” “Suburb of the south” and “of the north,” “Behind the south wall,” “Behind the north wall,” show how much may yet be recovered of the topography of Memphis. This will be discussed in this Journal before long.

GRENFELL, ALICE.—*The Ka on Scarabs*. The great mass of brief inscriptions on scarabs are usually passed by as “wish scarabs,” and ignored. This shows that as yet we are very ignorant of the ideas and expressions of the popular language of Egypt, however much we may know of the State texts. The extreme brevity and elisions usual in such a small space make it almost impossible to begin systematic readings ; and the allusions and ideas of mystical nature are a speech apart from our usual knowledge. However, to explain a mystic by a mystic, may be our best way of approaching the subject, though some will doubtless quote *Ignotum per*

ignotius. The readings given by Mrs. Grenfell may be stated here, and compared with what is generally accepted.

The signs *nefer*, *onkh*, *hes* and *s* are stated to be symbols of the deceased. The evidences are that the deceased are called *neferu sheps*, "the noble or ancestral excellencies," and the *onkhu shepsu*, "the ancestral living ones." For the rendering of *hes* no authority is given, but it is already recognised that the *hesy* or "praised one" means the dead. The frequent epithet of *ka nefer uah*, precedes the use of *uahem onkh*, "living again" and *māot kheru* or "justified." It seems therefore to be an honorific epithet of good wish for the deceased, and as such we should render it "may the good *ka* be established" or "multiplied." Mrs. Grenfell renders the *ka nefer* as "the *ka* of the deceased"; and *ka nefer uah* as a contraction of *uah khetu* "offerings," "may the *ka* of the deceased have offerings." This seems a large expansion of *uah*, and one which does not accord with the common name *Uah-ka* which is never expanded; this name, meaning "the *ka* is multiplied," would be a natural name for a child, in view of the *ka* being the ancestral spirit of the family. It seems, then, that the wish for a person "may the good *ka* be established," or "multiplied" is the more likely rendering. That the gods had *kas* is well known; besides the examples quoted, there is a stele of adoration to the *ka* of Osiris (Univ. Coll.).

Some "reliquary scarabs" are copied, showing the sacred head of Osiris guarded by the gods, as No. 40. Others given with these are, however, the emblem of Neferatmu, as Nos. 38, 39, and probably 35.

The falcon, with uraeus in front and plural strokes behind, is stated to be a sign for the glorified deceased. The evidence only goes to show that the royal soul was a falcon, while subjects were human-headed birds, even down to the first century A.D. (Zodiac tomb, Athribis). The plural is no doubt to give the reading Heru. Rarely, there is the serpent in front (like that before the *upuat*-jackal), the serpent who leads the way in the desert, implying that the Heru has gone, or is going, to Amenti. There does not seem to be any instance quoted which might not as well be translated as referring to the god Horus. For example (No. 59) *hes neb* (sphinx) *onkh heru*, is rendered "may Amen (sphinx) revivify deceased among the glorified": but a more usual reading would be "Praise to the king, live the Horus," like the opening *onkh her* of royal titles. In other cases the falcon is used simply as an equivalent of *neter*. The Aākhu bird on scarabs is rendered as "the glorified one," as would be generally agreed. The translations of "the glorified follower of Amen," or of Uazet, are very probable. The Bennu is rendered as referring to the deceased, in the examples 69, 70, *Bennu em aākhu*; but these may probably refer to the Bennu as psychopomp, the idea being "may the Bennu Soul of Ra be among the deceased ones to lead them to the Duat."

The term *khet* or *khet neb*, frequently found, is usually taken to refer to the etcetera, *khet neb nefer*, which ends the list of funeral offerings, "and all good things." On the other hand, Mrs. Grenfell gives a good instance of its referring to spiritual benefits, in the term "making known to the Bennu *khet duat*," "the things of the Underworld." Hence it is taken to refer to the magic ceremonies. It seems really impossible to define, except occasionally by the context, whether *khet* refers to material offerings, or ceremonies, or the affairs of the future life. It is about as wide a term as our word *thing*, as in "Divine things," "good things to eat," "pick up your things," or "saying bad things" of a person.


The Rennut scarabs are noticed, as wishes that the goddess of food should supply the deceased with "vivers."

Thus, although many of the proposed readings help to clear the sense of the scarabs, there are difficulties in most of them. These difficulties may be solved by a wider usage of terms than we yet allow, and it is very unlikely that we have already reached the varied senses of words. Some good reason for each class of readings needs to be given, and some example which cannot be read in any other way, if we are to take an explanation as established.

MASPERO, JEAN.—*Sur quelques inscriptions grecques provenant du grand temple de Denderah*.—The lamented scholar, whose loss by a *kultur* bullet we deplore, has left here a study of various inscriptions lately exposed by clearances at Denderah. (1) A dedication by Hadrian on the 13th of Tybi. This date cannot refer to Hadrian's birthday, as that fell on 26th Mekhir, and at his visits to Egypt the anniversary was on 7th and 10th of Phamenoth; but it was probably erected in one of his visits in A.D. 122 or 131. (2) A base of a statue of Hadrian. (3) Base of a statue dedicated by the city to Tullius Ptolemaios, a strategos and administrator of the Museum. (4) Base of a statue of Carinos. (5) Base of a statue of Aurelius Apollonios; third century.

MASPERO, JEAN.—*A propos d'un bas-relief Copte du Musée du Caire*. A slab of sculpture from an arch, said to come from Koptos, shows a figure seated in a boat, surrounded by water plants, on one of which are two birds, and a nest with eggs on another. Two fishes indicate the water below. There is nothing in the treatment at all like ancient Egyptian work, though the motives are all known in the early dynasties. Unfortunately the photograph is placed in the plate diagonally to its true vertical, which confuses the appearance.

This slab serves as a point of departure for examining the views on Coptic art, which have prevailed in recent years, in the writings of Ebers, Gayet, Riegl, and above all Strzygowski. The endeavours to emphasize resemblances in Coptic art to ancient motives are examined in detail, and shown to break down in nearly all cases. One allegation after another is rebutted with good effect. Beyond the Horus on horseback, the lock of Horus on the cross, perhaps the origin of **XP** monogram (not noticed in this article), and the unifying of the *onkh* with the cross, there does not seem to be a single point in Coptic art which would suggest Egyptian influence if found in any other country.

MASPERO, G.—*Un Exemple Saïte de la transcription RIA pour *. Many examples of cuneiform transcription of names in the New Kingdom gives -riya, -ria, for Ra, both at the beginning and end. On the other hand in Manetho and later documents Ra is transcribed by Rē at the end, and Ra at the beginning or middle of names. At what point did this change take place?

The transcription of the XXVIth dynasty name Uah-ab-ra by Herodotos and Diodoros is Apriēs, while Manetho and the LXX use Ouaphrēs, Ouaphris, Ouaphrē. In this Sir Gaston does not take account of Apries being really the personal name, Haa-ab-ra, as Mr. Griffith pointed out. That does not, however, affect the evidence about Ra. Therefore *ri*, or *riya*, was the Saïte pronunciation in the fifth century B.C. On the other hand, Herodotos uses the form Khefrēn, giving Ra as *rē*. Diodoros quotes this, but also uses Khabruis and Khabruēs from some other author, giving Ra as *rui* or *ruē*. The conclusion is that when the Greek forms became fixed in 700–500 B.C. the older *riya* was still in use, while in common language *rē* was coming into use and appears in the form Khefrēn.

REVIEWS.

Alexandrea ad Aegyptum: Guide de la Ville ancienne et moderne et du Musée Gréco-Romain.—E. BRECCIA. Sm. 8vo, 315 pp., 2 coloured plates, 196 figures and map. Bergamo. 1914.

The professions of this book are rather puzzling. Dr. Breccia has given, what all archaeologists wanted, an efficient and well illustrated summary of the Museum in his charge, 160 pages; also 88 pages on the topography of ancient Alexandria, due from the latest excavator, who has studied it for long. All this is prefaced by a sketch of the history in 28 pages, and 15 pages to begin with about the commerce and affairs of the modern town. It looks as if this touch of guide book was to pacify the business instincts of the municipality whose name figures at the top of the title page. Curiously, it is published at Bergamo, has no Egyptian bookseller named on it, and no price.

On the topography Dr. Breccia discusses carefully the conclusions of previous writers, which he by no means accepts in detail. The depth to which all ancient foundations are buried, the rise of water level submerging all but late buildings, and the covering of the ground by the modern town which limits discoveries to chance digging for building, have prevented any scientific examination of the ancient city. One certain site is that of the Sebasteum, in the court of which stood the two obelisks, now removed. The great buildings of the Ptolemies can only be localised in a region, but not distinguished. The Serapeum is the other certain site, fixed by the imposing column which is seen for miles at sea, over the modern town. The great catacombs of Kom Shuqafa and Anfushy, the sites of Taposiris, Saint Menas, Canopus and Rosetta, are also described.

It will be useful to give here an outline of the contents of the Museum as described in the Guide. The inscriptions begin with a dedication to Ptolemy Soter. Some grave steles, with figures, recall the grace of those at Athens, though a century or two after the best work. The Roman funerary reliefs are very clumsy, scarcely better than those of Britain. Some papyri from recent discoveries illustrate the literary remains; but such things can only be found in Upper Egypt, and do not belong to the Alexandrian discoveries. Some statues of the XIXth dynasty found in Alexandria and the neighbourhood, were brought there from ancient sites in Greek times. A fine piece of Saite tomb scene comes from Heliopolis.

One of the rarest objects is a wooden stand supporting a wooden bier on which is the mummy of a crocodile. This was used in the processions of the late form of Sebek, Petesouchos, and was found in the temple at Theadelphia, in the Fayum. The great gate of the temple is also preserved, with the dedication under Ptolemy IX in 137 B.C.

One hall contains the Antoniadis collection of antiquities of all periods. The more important objects are a table of offerings of King Amenemhat, and some fine bronzes of gods; but, as a whole, it seems typical of the show collections of rich amateurs,—beautiful, but of no fresh interest. A finely cut stele shows the two sacred serpents of Isis and Serapis, different in form, as they are found also on

silver bracelets. Some fine heads of priests, and a Nubian, show that a vivid school of portraiture existed in the Roman age, which, while it was Roman in nature, was yet strongly influenced by Egyptian ideals: a mixture much like pictures in Western style by a Japanese artist.

Of purely Greek style are some excellent marble heads of the school of Scopas in the fourth century B.C. Others of Ptolemaic style and Roman work are much what we see in Italian museums. A fine portrait head of the close of the first century A.D. is remarkable for the beauty and character which it reveals.

A large number of capitals and architectural fragments show the late Corinthian development in Alexandria.

The vases typical of the Alexandrian cemetery are whitened, with a wreath of flowers in colours around the body; others are of the usual black iron-glaze. The lamps of pottery form a very large series, and it is to be hoped that when published the date of the locality where they were found will be stated. The dating of lamps is much required for understanding excavations. There is a small collection of glass, but not of importance.

Of the terra-cotta figures there is a good collection of the moulded figures beginning about the third century B.C., but apparently none of the modelled figures of earlier ages. Thence the figurines run down in style to the coarse Roman work of the third century A.D.

Many fresco paintings of small size have been removed to the Museum. Unfortunately, a fear of their fading has led to glazing them with deep yellow glass, which entirely prevents the colours being seen. A loose falling blind is a far better preservative. The remains of Christian period are comparatively few.

A fine collection of coins is a special feature of the Museum, gathered with the aim of forming as complete a series as possible of the Egyptian mint under the Ptolemies and Romans. An excellent large-scale map at the end of the volume shows all the ancient remains in red on the plan of the modern town in grey. We all have to thank Dr. Breccia for issuing such an excellent and useful publication which should be in the hands of everyone who thinks the ancient capital worth a few hours' visit.

Archaeology of the Lower Mimbres Valley, New Mexico. 1914.—By WALTER FEWKES. (Smithsonian Institution.) 53 pp., 8 plates.

This account refers to a region scarcely touched yet by research, but evidently containing remains of a considerable civilisation. A few parallels to Egyptian subjects should be noted. The contracted burials are seated, as the Peruvian, not recumbent; usually a "killed" bowl with a hole knocked in the bottom is placed over the head. This custom is explained thus: "Ceremonially every piece of pottery is supposed by the Hopi (tribe) to be a living being, and when placed in the grave of the owner, it was broken or killed to let the spirit escape to join the spirit of the dead in its future home." As we have no record of the Egyptian motive for "killing" pottery, furniture, etc., any clear statement like this is of value. Some animal figures (as Fig. 9) are much like the prehistoric Egyptian hippopotami. Hooked sticks, like those in the tomb painting in *Hierakonpolis*, LXXVI, are shown as carried by hunters; and parallels are given for such being throwing sticks used in hunting. Later they became sacred emblems among the Hopi. These similarities may serve to explain Egyptian usages, without any suggestion of actual derivation.

The Antiquity of Iron.—G. F. ZIMMER (*Cassier's Engineering Monthly*). 19 pp., Jan. and Feb., 1915.

In these two papers there are no fresh facts brought forward, and it is therefore needful to see how conclusions are reached which somewhat differ from those recently stated in this Journal (1915, pp. 20–23). The succession of Stone, Bronze, and Iron ages is declared to be a fallacy; but the only ground for this is the very rare occurrence of iron before bronze, though long after copper was known. An assumption is made that copper and bronze only were buried because they were cheaper and inferior to the valued iron tools; also that iron was necessary for cutting the harder stones. These are assumptions of the old type, without any evidences. In reality, no metal was used to cut hard stones, but soft copper served as a bed for cutting points of emery. Actually, copper can be alloyed and hardened so as to be superior to iron, and only equalled by steel. The author relies on malleable meteoric iron as a primitive source, which is quite likely. The word *baā-ne-pet*, however, though meaning iron in Greek times, was used for haematite in earlier writing, as statuettes were made of it by Rameses III; no statuettes of iron are known, but they were often made of haematite. The name of the king of the 1st dynasty is, in contemporary form, Mer-pa-ba, written with the pool *ba*. This *ba* is probably the name of a deity, found on early inscriptions, but it may mean a hard stone, or a mine, or a causeway; there is nothing to show that it referred to the metal iron. Many statements require correction, such as "Fall of Troy, 1406 B.C."; "Iron in universal use under Ramses II even for implements of agriculture," apparently based on one iron sickle; "About 800 B.C. iron was already freely used for agricultural implements in Egypt," but I have never seen one such among the bronze hoes; the butchers of the Old Kingdom are said to sharpen their knives on "steels," which are doubtless whetstones; and quotations are made from the annals of Thothmes and Merneptah about objects of iron, which is a mistranslation instead of bronze. It is hard to imagine what version can have given such a misstatement. Altogether the exaggeration of the rare and sporadic use of early iron seems to be the only ground for asserting its general importance before 1200 B.C.

The Shining East.—EMILY M. BURKE. 8vo, 167 pp. 1s. Ralph, Holland & Co.

This is a fairly suitable course of elementary talks for small children on Egypt, Babylonia, and countries around, with 31 illustrations. It seems a pity that teaching books should start with oversights in the small stock of ideas which can be given in such a scope. We read here of the Egyptians being "an almost savage nation" in the 1st dynasty, when wealth and fine work was common: the builders of the pyramids are called slaves, and said to have been soon killed by toil, when they were probably relays of sturdy peasants, who were better rather than worse for the training; the sound given by the Memnon of Thebes is supposed to be an original design; the usual mistake appears about mixing straw with bricks by the Israelites; the nomad Israelites are supposed to have been better brickmakers than the Egyptians, who had thousands of years of experience; and in the map of Chaldea there is no hint that the coast was entirely different in ancient times. It is a pity not to correct such misleading matters, although the sphinxes on the cover have no heads!

NOTES AND NEWS.

A STRANGE development has arisen in Egypt regarding British excavations. For six years the British School of Archaeology in Egypt devoted a large part of its time and resources to opening up the site of Memphis, ascertaining the topography, and negotiating with private owners for rights to work in their land. When the new law on antiquities was passed—which would deprive work in private land of half its returns—an enquiry was made of Sir Gaston Maspero whether that law, which was intended to claim accidental discoveries from the *fellahin*, would be also applied to the very costly excavations under water. No reply was given to the enquiry, and thus the work was hindered for the season 1914.

On the outbreak of the War all of the British School Staff took service at once, and the excavations were necessarily suspended. At this national crisis, the Philadelphia Museum (which had received large returns from the British School work), without a word of enquiry or explanation, acquired from the Department of Antiquities a site at Memphis which had already been examined and reserved for future work by the British School. No word of information was given to the previous workers, and no copy of the Report lately published has been sent to the British School. Enquiries addressed to the Department of Antiquities have been ignored. A casual quotation from an American newspaper was the only source of information regarding the acquisition and working of a site which the British School had already discovered, examined, and reserved for the future.

Entire secrecy has always surrounded the acts, regulations, and concessions of the Archaeological Committee of the Department in Egypt; but the suppression from an excavator of all news of giving away his discoveries to others, is a further stroke of arbitrary treatment. On both the part of the Egyptian Government and of the Philadelphia Museum the silent attack on British excavation is a very strange course in a British Protectorate. The British School has never intended to relinquish the work at Memphis, on which so much has already been done; and to take advantage of the response of our workers to the national needs at the present moment, is a course which could not have been expected unless in anti-British interests.

Of our former workers in Egypt, Mr. Brunton now has a commission in the R.A.M.C. Lieut. Engelbach is organising bases with an Egyptian gang in the Aegean. Dr. Amsden, after service in England, is now at the hospitals in France. Lieut. Horace Thompson is drilling recruits at Cannock Chase. Lieut. North is drilling recruits of the West Surrey's at Shoreham. Mr. Willey is with the Political Agency in the Persian Gulf. Mr. Hayter is in the Censor's Office on correspondence. Mr. Mace is in the Artists Rifles, expecting a commission.

Of our friends in the subject, we have to deplore the loss of one of the most promising young Egyptologists, in Lieut. James Dixon, who had worked for some years in Nubia, at Abydos, and in the Sudan. This is a sad break in the small band of competent English workers, and one which all who knew him will personally deplore.

THE PORTRAITS.

THE interesting account of the excavations at Lisht, which Dr. Lythgoe has kindly supplied to us, prompts the comparison of two heads of Senusert I, here placed together. The sculpture of Koptos evidently represents the king at a much later period of his long reign, than in the statuette of Lisht. The jaw is fuller, the lips more rounded, and the expression that of a man of fifty, and not of a youth of twenty. It is worth while to study the differences of treatment, in the round and on the low relief. The proportion of distances between the back of the ear, the end of the eyebrow, and the forehead, are almost the same. There is a slight spread of the inner side of the eyes on the relief in order to show the whole ; but there is less difference between the round and the flat, than might be supposed on looking only at the relief. The main differences are in the shape of the ear, and the shape of the top of the crown. The portrait from Koptos is on one of the slabs of the temple of the XIIth dynasty, which had been laid face down, in the foundations of a later temple.

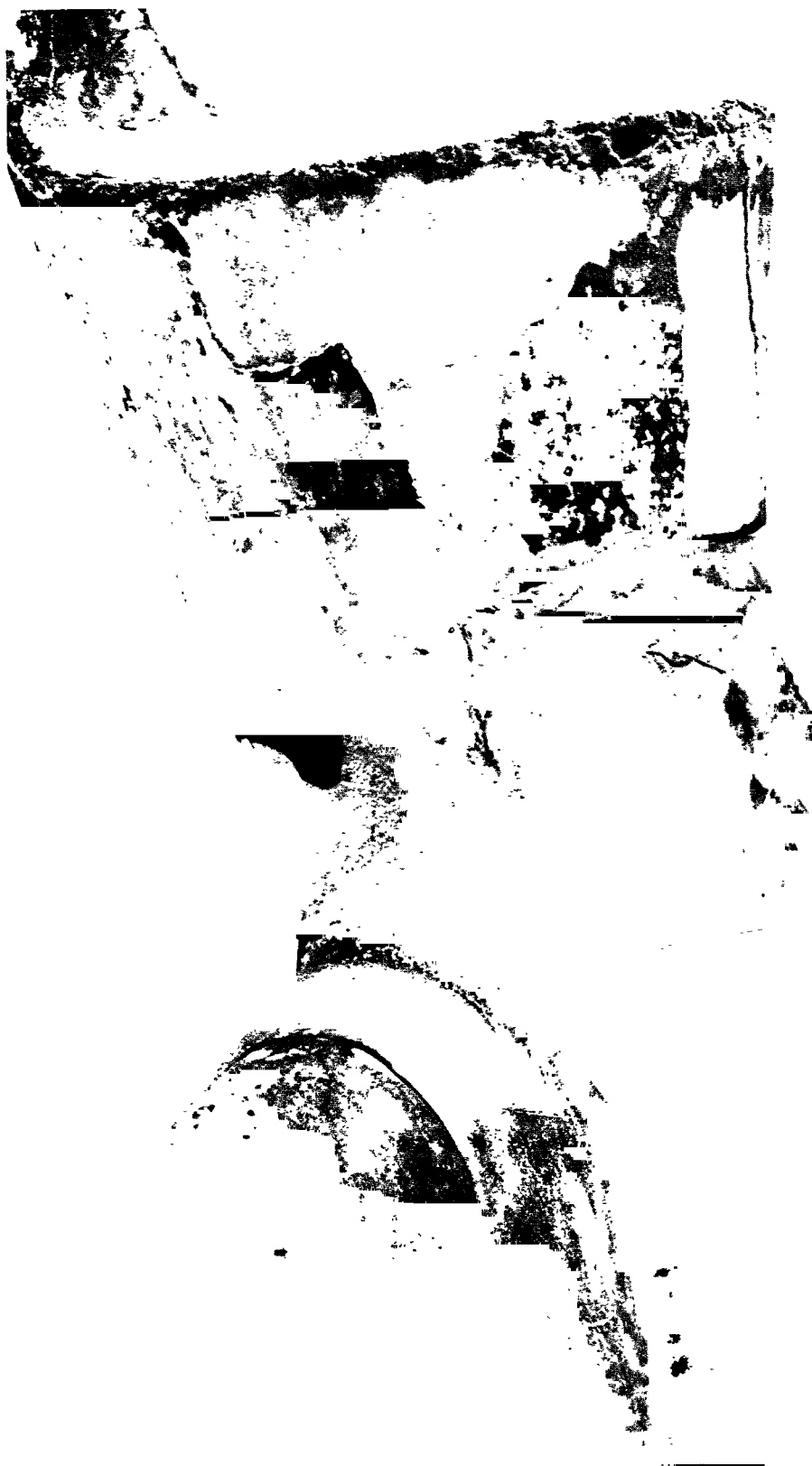
The results of Dr. Lythgoe show how little we know about the course of the funeral ceremonies. That the preservation of dead sacred animals was an act of devotion we know from the abundance of such carefully mummified, and specially from the imitations of mummy crocodiles on a small scale which were buried. Hence the preservation of a dead jackal would be an act to acquire merit with Anubis, and to ensure the divine protection. The offering of a bandaged jackal and a jar of ointment would be specially acceptable to *Anpu em amiut*, "Anubis in his bandages," who was the god principally appealed to on the funeral steles for protection. It would be the direct emblem of that aspect of the god. When such an emblem was placed with the figures of the king it would be a special appeal to Anubis to ensure his care for the king. There is also another sense possible, suggested by the emblem being placed with the deceased Osiris in his shrine, at the judgment scene ; it may be taken as a pledge that the deceased has been perfectly preserved in his mummifying, even as the Anubis figure itself. These discoveries show how carefully excavators should search the area of work, where some of the best results may be hidden or lost in any perfunctory clearance.

 MEETINGS OF RESEARCH STUDENTS' ASSOCIATION.

PROF. PETRIE will welcome members of the Research Students' Association and other friends at the Egyptian Collection, University College, on Nov. 15 and Dec. 15, at 3 to 4 p.m. It is hoped to resume the usual meetings after Christmas.



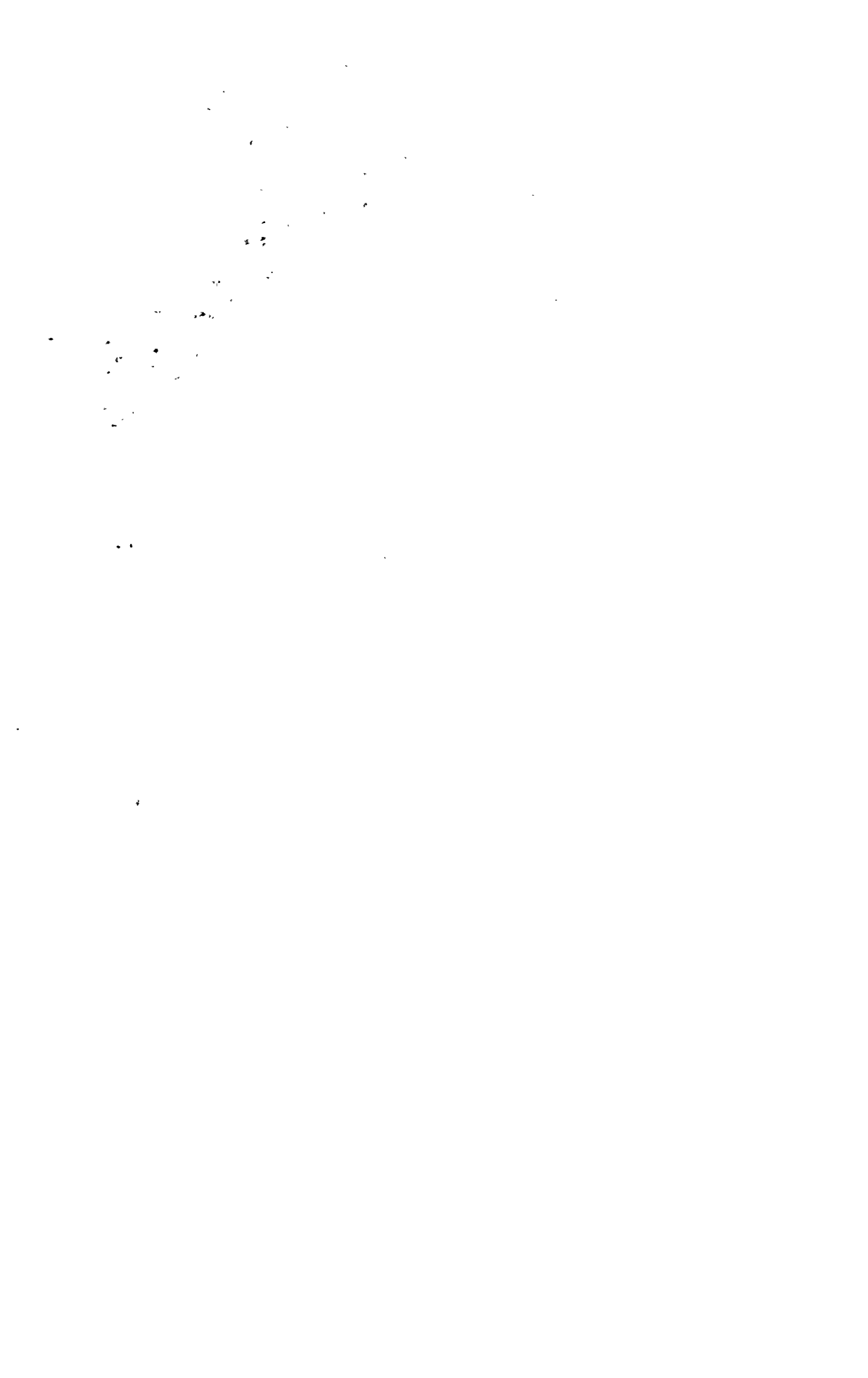
SENUSERT I. KOPTOS, UNIVERSITY COLLEGE, LONDON.



SENUSEPT I. LISHT, METROPOLITAN MUSEUM, NEW YORK.



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